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A NEW AND COMPLETE

DICTIONARY

OF

ARTS and SCIENCES;

COMPREHENDING ALL

The Branches of Uſeful Knowledge,

WITH

ACCURATE DESCRIPTIONS as well of the various MACHINES, INSTRUMENTS, TOOLS, FIGURES, and SCHEMES neceſſary for illuſtrating them,

AS OF

The Claſſes, Kinds, Preparations, and Uſes of NATURAL PRODUCTIONS, whether ANIMALS, VEGETABLES, MINERALS, FOSSILS, or FLUIDS;

Together with

The KINGDOMS, PROVINCES, CITIES, TOWNS, and other remarkable Places throughout the WORLD.

Illuſtrated with above Three Hundred COPPER-PLATES, engraved by Mr. JEFFERYS, Geographer to His MAJESTY.

The Whole extracted from the Beſt AUTHORS in all Languages.

By a SOCIETY of GENTLEMEN.

The SECOND EDITION,
With many ADDITIONS, and other IMPROVEMENTS.

——————*Huc undique Gaza*
Congeritur ——————— VIRG.

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1°.

THE

INTRODUCTION.

AS mankind, in at leaſt all the polite and civilized parts of the world, are abundantly convinced of the ineſtimable value of Knowledge, we ſhall not detain the reader with needleſs encomiums of it; neither ſhall we enter upon a tedious hiſtory of the riſe and progreſs of the ſeveral Arts and Sciences. It appears to us much more intereſting, as well as more conducive to our preſent purpoſe, to employ the few pages allotted for an Introduction, in ſhewing how juſtly this work merits the title of a *Complete Dictionary of Arts and Sciences*: this we ſhall attempt to do, by briefly explaining the deſign and nature of the work, and afterwards giving a ſhort analyſis of the ſubject-matters contained in it.

In general, then, it is deſigned, and, upon examination, we are confident will be found, to be more univerſal and comprehenſive, than any work of the like nature, hitherto publiſhed in any language: for not only are the larger branches of ſcience, and general claſſes of natural objects, here explained and illuſtrated; but, likewiſe, their various ſubdiviſions purſued throughout the moſt minute ramifications: thus, the properties of Points and Atoms, for inſtance, are by no means omitted, though contained in much narrower bounds than thoſe of Lines, Angles, Surfaces, and Solids: here too the ſmalleſt Inſect and Plant find a place, only a leſs one than thoſe allotted for the deſcription of the Elephant and Oak: in a word, it will contain, ſo to ſpeak, the quinteſcence of literature, extracted from loads of groſs materials, and eſpecially from that chaos of words which fills up whole pages, where one paragraph might have ſerved. But this is not all; for beſides lopping off excreſcences, curtailing ſuperfluities, and wholly rejecting uſeleſs lumber, particular care has been taken to ſupply the deficiencies, as well as to correct what appeared to be amiſs in the plans of former ſcientifical lexicographers: hence it is that ſome of our articles are more full than theirs, others more conciſe, and a multitude of entirely new ones added; not to mention the different arrangement and diſpoſition which obtain on many occaſions. Among the new articles may be ranked moſt, if not all, the geographical ones, many commercial and ſcientifical, and not a few in natural hiſtory.

This work, therefore, will make a *Complete*, though conciſe, *Body of Arts and Sciences, Natural Hiſtory, and Geography*, diſpoſed in the commodious form of a dictionary; concerning which form we find ourſelves obliged to remark, that ſome have very injudiciouſly condemned the uſe of references. A thouſand inſtances might be brought, to prove their being indiſpenſibly neceſſary to the perfection of ſuch a work: thus, under the general article ANIMAL, after defining what is meant by the term, and diſtributing it into the claſſes QUADRUPEDS, BIRDS, FISHES, *&c.* the nature of a dictionary, which treats of every thing under diſtinct articles, makes references to theſe heads, for the particular deſcription and ſubdiviſions of each, not only uſeful, but an eſſential part of the work. On the other hand, to avoid needleſs repetitions, it has been judged ſuf-

ficient, under particular articles, HORSE, for example, to ſay that it is an animal of the claſs of quadrupeds, and order of the jumenta, or beaſts of burden; taking care to give the characteriſtical peculiarities that diſtinguiſh it from all other animals, and refer to the articles ANIMAL, QUADRUPED, and JUMENTA, for its general and claſſical characters, or thoſe it has in common with other animals of the ſame claſs and order. What has been ſaid of Animal and Horſe, will hold equally with reſpect to other articles; thus, from ARITHMETIC and ALGEBRA we refer to ADDITION, SUBTRACTION, MULTIPLICATION, &c. and from theſe back again to ARITHMETIC and ALGEBRA, for the general account of theſe ſciences. This double reference, like a double entry in merchants books, is that bond of union whereby the various and frequently very diſtant parts of the work are connected together, and an harmony, ſimplicity, and order eſtabliſhed, without which all would be confuſion and diſcord. But beſides this neceſſity of ſymmetry, ariſing from the nature of the work, the caprice of authors, in coining a multiplicity of names for the ſame object, has ſubjected lexicographers to the cruel and almoſt endleſs taſk of explaining the various terms they have uſed for one and the ſame thing. Now the only poſſible method of doing this in an accurate and ſcientifical manner is to deſcribe every ſuch object under a ſelect name, and refer from the other ſynonymous terms to that head, for the deſcription.

It remains now to ſay ſomething of the ſources, whence the materials of this work have been drawn: and, indeed, theſe are too numerous to be particularly mentioned; all helps, from whatever quarter, having been uſed with the utmoſt freedom. Dictionaries, tranſactions, memoirs, ſyſtems, commentaries, practices, and even eſſays, elements, and grammars have contributed their ſeveral quotas. Theſe, like ſo many rich mines, have furniſhed ample materials for erecting this new edifice; in which, however, they are ſo transformed and new-modelled, in order to fit them for their reſpective places, that it would be both tedious and uſeleſs to refer to the originals on every occaſion. This, nevertheleſs, we have always taken care to do when neceſſary; never failing to point out the beſt authors on each art and ſcience, and refer the curious to books where farther information on the moſt intereſting ſubjects may be obtained.

With reſpect to the copper-plates, it is ſufficient to obſerve, that they muſt greatly enhance the merit of the work; ſince, without them, the moſt accurate deſcriptions ſeldom convey ſuch diſtinct ideas of things as could be wiſhed. On the other hand, the deſcriptions ſerve to explain the copper-plates: for though the engraver has, indeed, with much ingenuity, delineated the many mathematical ſchemes, figures, machines, inſtruments, animals, plants, and other curious productions of art and nature, ſelected for the illuſtration and embelliſhment of this work; yet their properties, conſtruction, and various uſes muſt be learned from the deſcription given of them under their reſpective articles.

Having thus, in few words, explained the deſign and nature of our undertaking, we ſhall next proceed to lay down a plan of the ſubject-matter: but as this is a taſk of no ſmall difficulty, it will be neceſſary, in order to aſſiſt our own as well as the reader's imagination, to ſubjoin the Table or Scheme of Knowledge; by which, as by an intellectual compaſs, we have ſteered our courſe through the vaſt ocean of literature. It is conſtructed upon a very different plan from all that have fallen within our notice: that of Mr. Chambers has been generally diſliked, as too ſcholaſtic and abſtracted; and even that of the great Bacon, with all the improvements of the ingenious authors of the french Encyclopædia, is, in our

opinion,

opinion, too complicated, inafmuch as it blends the confideration of the human foul with that of the objects of its knowledge. On this laft foundation it is that the annexed general Scheme of Human Knowledge has been drawn up; which, we flatter ourfelves, has the advantage of any of thofe before-mentioned, not only as being more fimple and natural, but likewife fuller and more accurately diftributed.

This fcheme is branched out, firft into the General and Particular objects of Knowledge: under the former, or general branch, are comprehended Metaphyfics, Ontology, or Firft Philofophy; which are again fubdivided into general Pneumatology, Phyfics, Mathematics, Phyfiology, and Chronology: all which are either employed about the effences or general attributes of Beings, as will be explained afterwards. Under the fecond grand branch of knowledge are comprehended all particular objects, fubdivided into Divine, Human, Natural, and Artificial; the firft whereof includes all that we know about God and matters of religion; the fecond, all that more immediately regards Mankind, whether confidered as Individuals, or Members of Society; the third, all Natural objects, from the Sun, Stars, and Planets, to the moft minute Infect and Atoms of our earth; and the fourth, all works of Art; which, notwithftanding their manifeft connection with the fecond branch, we have judged expedient to arrange under a feparate and diftinct clafs, for this reafon, that as the admirable works of the great Author of nature are confidered feparately from Theology, fo may the comparatively diminutive, though at the fame time curious and ufeful, productions of human Art be confidered feparately from Mankind themfelves. As to the many fubdivifions of each of thefe larger branches, they may be feen in the fcheme itfelf; which, being drawn up with no inconfiderable application and ftudy, is fubmitted to the judgment of the learned, who at leaft cannot fail to approve of our endeavours to pleafe them; fince this defire, added to that of finding a cue to guide us through the intricate mazes of literature, was what fet us upon compiling it.

We will now take a general furvey of the Arts and Sciences, and as they pafs in review before us, point out the moft important branches treated of under each of them; which, at the fame time that it ferves as a farther illuftration of the Scheme here referred to, will be a brief analyfis of this work.

(1) Metaphysics, Ontology, or First Philosophy, undoubtedly conftitute the moft fublime of all fciences, as treating of the effence and univerfal affections of all beings. To be a good metaphyfician, one muft firft be a good divine, a good philofopher, and, in fhort, a thorough proficient in every branch of particular knowledge; he muft have diftinct and adequate ideas of the nature and manifold properties of beings in general; otherwife in claffing, diftinguifhing, and varioufly arranging them, he muft unavoidably fall into the groffeft blunders: we have, therefore, endeavoured to explain the various opinions of the learned concerning Effence, Subftance, Caufe, Effect, Poffibility, Neceffity, Power, Duration, Number, Finite, Infinite, Category, Predicament, Genus, Species, *&c.*

(2) Pneumatology, called alfo Pneumatics, is one great and important branch of metaphyfics, which treats of fpiritual beings, their powers, attributes, *&c.* whence arife a great many curious articles, as Spirit, God, Angel, Soul, Mind, Underftanding, Idea, Perception, Judgment, Reafoning, Reflection, Senfation, *&c.* alfo Knowledge, Science, Will, Memory, Imagination, *&c.* all treated of in their feveral places.

(3) Physics,

(3) Physics, another great branch of Metaphyfics, to which belongs the explanation of the general properties of corporeal beings, is fubdivided into Mathematics and Phyfiology.

(4) Mathematics treat of Number, Figure, and Magnitude; and hence the fubordinate fciences, Arithmetic, Algebra, and Geometry: the great excellency of all which is owing to this, that as we have more diftinct and determinate ideas of their principles, fo likewife is the knowledge thence arifing more precife and certain than that of moft other fciences.

(5) Arithmetic is confidered not only with refpect to its fundamental operations, Addition, Subtraction, Multiplication, and Divifion; but likewife the rules of Proportion, Intereft, Fellowfhip, Rebate and Difcount, Tare and Tret, Fractions vulgar and decimal, Reduction, Involution, Extraction of roots, Alligation, Progreffion both arithmetical and geometrical, Arithmetic of infinites, Logarithms, &c. of all which, both the principles and practice are explained in the moft diftinct manner, and illuftrated by proper examples.

(6) Algebra, by fome called literal or univerfal arithmetic, very properly occupies the next place, as ferving to refolve all manner of problems by the fame fundamental operations of addition, fubtraction, multiplication, &c. But befides thefe it contains a great many others, very different from thofe of arithmetic; fuch are Equation, Quadratic, Biquadratic, Cubic, Binomial, Surd, Conftruction, Coefficient, Limit, &c. alfo many in common with it, as Proportion, Series, Approximation, Involution, Evolution, Fraction, &c.

(7) Geometry, another moft comprehenfive as well as ufeful branch of mathematics, is confidered as divided into elementary or common, and higher; the firft, or elementary part, may be conveniently fubdivided into, 1. Planimetry, or the menfuration of plain figures, their length, breadth, angles, diameters, diagonals, areas, &c. hence the articles Line, Triangle, Square, Parallelogram, Polygon, Circle, Ellipfis, Parabola, Hyperbola, Surface, Surveying, &c. the properties of all which are explained in their places, as are alfo the figures and ufes of the inftruments employed in defcribing or meafuring them, as Ruler, Compaffes, Quadrant, Theodolite, Circumferentor, Plane-table, Chain, Scale, Protractor, Perambulator, &c. 2. Stereometry, or the menfuration of folids; which may be ftudied under the articles Cube, Parallelopiped, Prifm, Pyramid, Globe, Sphere, Spheroid, Cylinder, Cone, Fruftum, Gauging, Sector, Sliding-rule, Gauging-rod, &c. As to the higher Geometry, it may be learned under the articles Curve, Curvature, Tranfcendental, Ciffoid, Conchoid, Cycloid, Cauftic, &c.

(8) Trigonometry is that branch of geometry which teaches the menfuration of triangles, whether plain or fpherical; hence a variety of articles, as Angle, Degree, Sine, Tangent, Secant, Radius, Triangle, Bafe, Perpendicular, Hypothenufe, &c. all explained in their places. And as to the menfuration and properties of fpherical triangles, they will be found under the articles Triangle and Spherical.

(9) Spherics contain the doctrine of the Sphere, the area of its furface, its folidity, formation, projection, &c. whence the articles Orthographic, Stereographic, Analemma, Planifphere, Pole, &c.

(10) Conics, another branch of geometry, treat of the conic fections, as Circle, Ellipfis, Parabola, and Hyperbola: whence a variety of articles, as Axis, Afymptote, Abfcifs, Focus, Parameter, Ordinate, Diameter, *&c.* all treated of under their feveral articles.

(11) Physiology, or Natural Philosophy, a fcience of vaft extent, is univerfally acknowledged to be the moft fublime, moft entertaining, and at the fame time moft ufeful part of fpeculative knowledge, relating to natural objects. It has for its object the Laws and various Phænomena of Nature; whence arife the articles Matter, Body, Extenfion, Solidity, Fluidity, Divifibility, Inertia, Motion, Gravity, Attraction, Cohefion, Electricity, Magnetifm, Elafticity, Hardnefs, Softnefs, Malleability, Heat, Light, Cold, Froft, Condenfation, Rarefaction, Fermentation, Generation, Vegetation, Cryftallization, Nutrition, Putrefaction, Rain, Thunder, Hurricane, Cloud, Meteor, Rain-bow, Summer, Winter, Sound, Tafte, Colour, Smell, *&c.* In fhort, this fcience may be looked upon as the bafis of all Natural and Artificial Knowledge, and even of Human, fo far as it regards the body.

(12) Dynamics conftitute a branch of phyfiology, to which belongs the confideration of the Laws of Motion, of Percuffion, of Action and Reaction, of Force, Acceleration, Retardation, Direction, Velocity, Central Forces, Springs, Powers, Weights, *&c.*

(13) Mechanics are another branch of Phyfiology, which treat of the Equilibrium and Combination of Powers; and hence the fimple machines called the Mechanical Powers, *viz.* Lever, Ballance, Axis in Peritrochio, or Axis and Wheel, Pulley, Wedge, Screw, and Inclined Plane: of thefe are all manner of compound engines and machines conftructed; fome confifting of feveral levers; others, of levers, fcrews, and wheels; and others, of all the fimple powers, varioufly combined. Hence the articles Friction, Friction-wheels, Clock, Watch, Water-works, Wind-mill, Water-mill, Crane, Capftan, Windlas, Pile-engine, Silk-engine, Orrery, *&c.*

(14) Chronology is employed about Time, and comprehends not only the larger periods, as the Julian and Victorian Periods, the Chriftian Æra, the Hegira, Spanifh Æra, *&c.* but likewife its leffer divifions, as Hour, Day, Week, Month, Year, Olympiad, Luftrum, Cycle, Age, Century. Hence alfo a variety of articles, relating either to the methods of computing time, or the inftruments for meafuring it, as Fafti, Calendar, Almanac, Eafter, Epact, Golden Number, Style, Julian, Gregorian, Indiction, Dial, Watch, Clock, Water and Sand-glaffes, *&c.* all explained in their proper places.

(15) Theology, confidered as a branch of Pneumatology, treats of the Being and Attributes of God, and is either Natural or Supernatural, according as its principles are derived from Reafon or Revelation; hence alfo the articles Eternity, Omnipotence, Omnifcience, Ubiquity, Creation, Providence, *&c.*

(16) Religion is of much greater extent, as comprehending the Creeds, Feftivals, Ceremonies, and Rites of the almoft numberlefs fects to be found among Chriftians, Jews, Mahometans, and Pagans. Our general divifion of thefe is into True and Falfe; Chriftianity and Judaifm being ranked under the former, and Mahometanifm and Paganifm under the latter: however, to prevent

vent being misunderstood, let it be remarked, that we do not mean this of Judaism as professed by the modern Jews, but such as it was before the coming of our Saviour, and as delivered in the Old Testament; for as to modern Judaism, it is perhaps more absurd than Mahometanism.

The principal articles treated of, under this head of Religion, may be classed in the following manner, 1. The various Sects, as Protestants, Papists, Arians, Arminians, Socinians, Brachmans, Gymnosophists, *&c.* 2. The Rites and Ceremonies, as Baptism, Eucharist, Ordination, Circumcision, *&c.* 3. The different kinds of Worship, as Adoration, Prayers, Psalmody, Sacrifice, *&c.* 4. The Festivals, as Christmas, Easter, Pentecost, Passover, Bacchanalia, *&c.* 5. The Fasts, as Lent, Ramadan, *&c.* 6. The sacred Books, as Bible, Alcoran, *&c.* 7. The sacred Ministers, as Priest, Bishop, Mufti, Dervis, *&c.* 8. Places and Utensils of worship, as Church, Chapel, Temple, Mosque, Altar, *&c.* all which are explained in the order of the alphabet.

(17) Anthropology includes the doctrine of Human Nature, considered in general; the Rank which mankind hold in the Creation; the Union of Soul and Body, and the Laws thereof; the Immateriality, Rationality, and Immortality of the Soul; the unalienable Rights and Privileges of every individual, as Self-preservation and Liberty; the Faculties and Desires common to the whole human race, as Understanding, Desire of Happiness, Sociability, *&c.*

(18) Logic, a science much cultivated both by antient and modern philosophers, and justly held in the highest estimation, has the Faculty of the Human Understanding for its object, and is consequently but a branch of anthropology. It considers the Origin of Human Knowledge, shews how Ideas or Notions are formed, compares them to discover their Agreement or Disagreement, teaches the Rules of Ratiocination, and explains the Methods pursued in the Investigation of Truth. Hence arise a multitude of important articles, as Perception, Idea, Sensation, Reflection, Abstraction, Composition, Division, Judgment, Proposition, Affirmative, Negative, Universal, Particular, Absolute, Conditional, Self-evident, Argument, Axiom, Principle, Syllogism, Terms, Premises, Conclusion, Figure, Mode, Sorites, Dilemma, Sophism, Enthymeme, Truth, Falshood, Evidence, Demonstration, Method, Analysis, Synthesis, *&c.*

(19) Personal Ethics, called by Bacon the Georgics of the Mind, have the Faculty of the Will for their object, and consequently are only a branch of anthropology, concerning which we cannot affirm what has been said of logic, since philosophers have only considered it as a subdivision of General Ethics, under the title of the Duties of Man to himself. Some, indeed, at the head of whom may be placed Lord Shaftesbury and Hutcheson, have treated of the Balance of the Affections, the Power of the Passions, and the Beauty of Virtue and Goodness; yet still a regular and systematical treatise on this subject seems to be much wanted. We have explained the various terms Anger, Aversion, Hatred, Desire, Hope, Joy, Pleasure, Pain, Good, Evil, Passion, Appetite, Abstinence, Temperance, *&c.* under their respective articles.

(20, 21) Hieroglyphics and Heraldry are sister-arts, whereof the first, by various Symbols and Emblems, tends to preserve the memory of divine objects of knowledge, whether doctrines, offices, or rites; and the latter, by the like means, perpetuates the honours of great men and families. Every religion is furnished with a peculiar set of Hieroglyphics, or mystical representations.

The

The Egyptians of old were famous for them; the festivals of the Greeks and Romans were full of them; and even the christian and jewish religions are not without them, witness Baptism, Circumcision, Crucifixes, Surplices, *&c.* However, it must be confessed, that the doctrine of Hieroglyphics is by no means reduced to a system; which is the reason that though we have given the best information in our power on all these and the like heads, yet not with such precision as we could have wished. With respect to Heraldry, the case is quite otherwise; here we have explained the several Ordinaries, Charges, Colours, Metals, and Bearings; whence arise the articles Bar, Bend, Chief, Cross, Bordure, Pale, Saltier, Quarter, Dexter, Sinister, Or, Argent, Azure, Escutcheon, Shield, Crest, Supporters, Blazoning, *&c.* all which are described in their places, and the figures of most of them curiously engraved in the copper-plates.

(22, 23) GRAMMAR and HISTORY are also kindred branches of human knowledge, serving to perpetuate the memory of facts and inventions, and spread the knowledge of arts and sciences: the first we have considered as divided into four parts, Orthography, Etymology, Syntax, and Prosody; whence arise the articles Letter, Vowel, Consonant, Word, Particle, Substantive, Adjective, Pronoun, Verb, Active, Passive, Adverb, Preposition, Interjection, Conjunction, Number, Case, Declension, Person, Mood, Tense, Concord, Regimen, Verse, Prose, Accent, Pronunciation, Primitive, Derivative, Simple, Compound, Regular, Irregular, Language, Hebrew, Greek, Latin, English, German, French, *&c.* As to History, we have considered it as divided into Civil, Ecclesiastical, Natural, and Literary; hence the articles Dictionary, System, Abridgement, Elements, Synopsis, and many of those enumerated under the heads Government, Religion, and Natural History.

(24, 25) RHETORIC and POETRY are two liberal arts which owe most of their captivating charms to a good Imagination, or Genius; and, indeed, without the aid of this faculty, it is impossible to excel in any one art or science whatever. Under Poetry come the articles Poem, Epic, Dramatic, Lyric, Ode, Hymn, Psalm, Song, Satire, Elegy, Epigram, Tragedy, Comedy, Prologue, Epilogue, Soliloquy, Protasis, Epitasis, Catastrophe, Act, Scene, Pastoral, Farce, Hexameter, Pentameter, Iambic, Sapphic, Adonic, *&c.* And to Rhetoric may be referred the articles Elocution, Action, Disposition, Exordium, Narration, Confirmation, Peroration, Figure, Trope, Exclamation, Apostrophe, Epiphonema, Metaphor, Allegory, Hyperbole, Style, *&c.*

(26) MUSIC, another art depending upon imagination, we have explained in the concisest manner consistent with perspicuity; the terms are not only defined, but the grounds of Harmony accounted for; and both antient and modern Music illustrated under a variety of articles, as Diagram, Chord, Character, Scale, Interval, Cleff, Bass, Tenor, Treble, Genus, Chromatic, Enharmonic, Diatonic, Gamut, Solfaing, Temperament, Tone, Note, Second, Third, Fourth, Fifth, Sixth, Seventh, Octave, Diatessaron, Diapente, Diapason, Allegro, Andante, Trumpet, Flute, Organ, Harpsichord, Violin, *&c.*

(27) ARTS, in general, might be referred to the imagination; but we choose rather to class them according to the various uses they are intended to serve, as may be seen afterwards.

(28) ANATOMY has the constituent parts of the human body for its object, which the reader will find concisely and distinctly explained in their places, such are Head, Breast, Thorax, Abdomen, Arm, Leg, Artery, Vein, Nerve,

Mufcle, Bone, Gland, Heart, Stomach, Spleen, Liver, Lungs, Gall, Blood, Chyle, Aorta, Carotids, Subclavian, Spermatic, Epigaftric, Vena Cava, Porta, Jugular, Hand, Foot, Cartilage, Articulation, *&c.*

(29) Medicine has the Health of mankind for its object, and therefore is employed either in preventing or curing the many difeafes to which they are liable; in treating of which we have only briefly touched upon Ætiology, Diagnoftic, and Prognoftic Signs, in order to make room for the Therapeutic part, or method of cure. Many are the articles belonging to this fubject, but the moft confiderable are thefe, Difeafe, Symptom, Prognoftic, Diagnoftic, Pulfe, Urine, Crifis, Regimen, Fever, Agues, Gout, Rheumatifm, Peripneumony, Pleurify, Apoplexy, Epilepfy, Palfy, Polypus, Palpitation of the Heart, Madnefs, Hydrophobia, Convulfions, Confumption, Scurvy, Dropfy, Colic, Plague, Leprofy, Diarrhœa, Dyfentery, Eryfipelas, *&c.*

(30) Pharmacy, an art fubfervient to medicine, treats of the Ufes and Preparations of all medicinal Drugs, whether fimple or compound, natural or artificial; thefe are of different kinds, as Earths, Salts, Sulphurs, Metals, Plants, Animal Subftances, Oils, *&c.* and are arranged under different claffes, according to their different qualities, and curative intentions, as Evacuants, Alteratives, Aftringents, Styptics, Cathartics, Emetics, Emollients, Narcotics, Sudorifics, Diaphoretics, Cardiacs, Vulneraries, *&c.* The Simples belonging to each of thefe are defcribed with exactnefs, the Preparations explained, and the Virtues enumerated, as delivered in the beft Difpenfatories and writers on the Materia Medica: In order to be convinced of this, the Reader needs only confult the articles Amber, Ammoniac, Balfam, Scammony, Aloes, Almonds, Cinnamon, Saffafras, Jalap, Bole, Cinnabar, Rhubarb, Manna, Guaiacum, Colocynth, Sena, Opium, Mufk, Electuary, Extract, Tincture, Syrup, Troche, Pill, Mithridate, Theriaca, *&c.*

(31) Chemistry is an article fubfervient indeed to medicine, but by no means confined to that branch: it teaches the methods of preparing the different kinds of Salts, Oils, Amalgamas, Calxes, Crocufes, Regulufes, Sublimates, Spirits, *&c.* ufed in medicine; alfo the Smelting, Refining, and varioufly ordering of Metals for the common ufes of life: fo that to Chemiftry may be referred the many operations of Smithery, Coinage, Plumbery, Foundery, *&c.* To it likewife belong the arts of making Glafs, Lime, Soap, Pot-afhes, Malt, Beer, Wines, Vinegar, Dying, Enamelling, Etching, Tanning, *&c.* Hence a multitude of extremely ufeful articles, as Calcination, Diftillation, Sublimation, Rectification, Solution, Menftruum, Cryftallization, Precipitation, Brewing, Fermentation, Clarification, Amalgamation, Fluxes, Alkaheft, Aqua fortis, Aqua regia, Furnace, Crucible, Retort, Coppel, Muffle, *&c.*

(32) Surgery, another art fubfervient to medicine, teaches the feveral manual operations, as well as the treatment of the various external accidents and diforders to which mankind are fubject; hence the articles Amputation, Cæfarian Section, Cutting for the Stone, Phlebotomy, Scarification, Incifion, Wound, Ulcer, Abfcefs, Tumour, Aneurifm, Fracture, Luxation, Cancer, Gangrene, Mortification, Venereal Difeafe, Piles, Rickets, Ruptures, *&c.* alfo the inftruments ufed for this purpofe, as Knives, Lancets, Sciffars, Catheters, Bandages, Truffes, Probs, Spatula, Needles, Ambe, Tournequet, *&c.*

(33, 34) Cosmetics and Gymnastics have the beauty and vigour of the body for their objects. Cofmetics imply the art of improving the complexion;

and Gymnaſtics, of rendering the body robuſt and active by a courſe of proper exerciſes. Among the articles belonging to theſe ſubjects may be reckoned, Dentifrices, Waſhes, Creams, Salves, coſmetical Waters, Walking, Riding, Running, Bowling, Boxing, Wreſtling, Fencing, Dancing, &c.

(35) General Ethics, or Morality, comprehend the Duties which Mankind owe to each other, independently of poſitive inſtitutions, or the laws of particular ſocieties; all comprized under the golden maxim, of treating others as we would wiſh they ſhould treat us, were we in their circumſtances. Hence ariſe the articles Hoſpitality, Truth, Juſtice, Humanity, &c. alſo the oppoſite vices, Inhoſpitality, Pride, Barbarity, Injuſtice, Falſehood, &c.

(36) Law treats of the poſitive regulations of ſociety, for preſerving peace and good order, and the maintenance of juſtice. It explains the Rights and Privileges of every member, whether Nobleman or Commoner, Clergyman or Layman; and ſpecifies the penalties, which the infringers of thoſe Rights incur. Every ſtate has peculiar laws of its own; thus the Romans had their Civil Law, ſtill of great account in moſt nations of Europe; the French, the Salic Law, and the arrets of their arbitrary monarch; and, to mention no more, Great Britain is bleſſed with laws enacted by the joint conſent of the King, Lords, and Commons. Many are the articles which come under this head, as Statute, Act, Decree, Charter, Corporation, Clergy, Freehold, Manor, Copyhold, Bill, Bond, Will, Guardian, Executor, Adminiſtrator, Leaſe, Deviſe, Livery, Indictment, Felony, Treaſon, Judge, Jury, Challenge, Habeas Corpus, Court, Chancery, King's Bench, Common Pleas, Court of Requeſts, Plea, Treſpaſs, Attachment, Capias, &c.

(37) Government very properly comes after Law, being only a power, lodged in the hands of one or more magiſtrates, to carry the laws into execution. 1. With regard to its different forms, and ſupreme magiſtrates, we have treated of Ariſtocracy, Democracy, Oligarchy, Monarchy, Arbitrary, Free, Mixed, Elective, Hereditary, Emperor, King, Conſul, Archon, Senate, Sultan, Sophi, Czar, Caliph, Cæſar, Dictator, Prince, Protector, &c. 2. Its branches and ſubordinate magiſtrates, whether civil, eccleſiaſtical, or military; whence Archbiſhop, Biſhop, Dean, Chancellor, Chief Juſtice, Mayor, Alderman, Sheriff, Bailiff, Juſtice of Peace, General, Admiral, Colonel, Captain, Army, Navy, Militia, Parliament, Privy Council, Exchequer, Secretaries of State, War-Office, Board of Trade and Plantations, Board of Works, Poſt-Office, Commiſſioners of the Admiralty, Cuſtoms, Exciſe, Stamp-Duties, &c.

(38) Commerce we have conſidered as one of the moſt uſeful and neceſſary parts of the whole work, and therefore have treated it with more than ordinary fulneſs. The natural productions, manufactures, and various commodities concerned in trade, are here accurately deſcribed; and the marks whereby to diſtinguiſh the good from the bad, and the genuine from the ſophiſticated, particularly mentioned: ſuch are the Ores of metals, Diamonds, and other precious ſtones, Drugs for medicine, painting, or dying, Spices, Grains, Salts, Sulphurs, Earths, Woods, Fruits, Silk, Cotton, Wool, Hair, Cloths, Linens, Stuffs, Hard-ware, Glaſſes, China and Earthen-ware, &c. The reader will likewiſe find the conſtitution and privileges of the ſeveral Companies eſtabliſhed in Europe for the carrying on foreign trade; the laws and cuſtoms among Merchants, for the inſuring of ſhipping and merchandize; the conſtitution of the ſeveral Banks, with an account of their bank and current monies, as alſo of their agios, and the method of converting bank money into current money; the ſtandards of gold and ſilver, and the par of foreign coins with reſpect to their intrinſic value, the

monies both of coin and account, weights and meafures of our own and other countries; the practical part of Commerce, relating to Buying, Selling, Freighting, Factorage, Cuftoms, Duties, Bounties, Drawbacks, Bills of Exchange, &c. and laftly, an explication of all the technical terms and phrafes relating to foreign or domeftic trade, together with the lateft improvements in the art of book-keeping.

(39) Astronomy, as is more fully fhewn under its proper article, treats of the Univerfe, and particularly our Solar Syftem; explains the caufes of the planetary motions, the times of their revolutions, their diftances, magnitudes, &c. together with the various phænomena which thence arife, as Conjunction, Oppofition, Eclipfe, Aphelium, Perihelium, Summer, Winter, &c. The articles belonging to this fcience, which are indeed very numerous, may be claffed under the following heads: 1. The Bodies themfelves, Sun, Moon, Earth, Venus, Mercury, Mars, Jupiter, Saturn, Satellites, Comets, fixed Stars. 2. Syftems concerning them, as Copernican, Ptolemaic, Tychonic, &c. 3. Conftellations, or affemblages of the fixed ftars, as the twelve figns, Aries, Taurus, Gemini, &c. Urfa major and minor, Andromeda, Caffiopeia, Hercules, Argo, Perfeus, Lyra, Triangle, Sagitta, Pegafus, &c. 4. Terms and particular branches of this fcience, as Sphere, Equinoctial, Meridian, Horizon, Zenith, Nadir, Azimuth, Vertical, Ecliptic, Zodiac, Afcenfion, Declination, Longitude, Altitude, Amplitude, Orbit, Node, Phafes, Parallax, Stationary, Retrograde, Preceffion, Aberration, Ocultation, Penumbra, &c. 5. Inftruments, as Globes, Armillary-fphere, Planetarium, Orrery, Telefcopes, Micrometer, Quadrants, Aftrolabe, &c. the defcription of all which is illuftrated by proper fchemes and figures.

(40) Geography is only a branch of Cofmography, which, having the defcription of the terraqueous globe of our Earth for its object, may be comprehended under three general heads. 1. Natural Geography, which treats of its figure and natural divifions; whence arife Earth, oblate Spheroid, Continent, Peninfula, Ifthmus, Mountain, Promontory, Ifland, Ocean, Sea, Gulph, Lake, River, Straits, &c. 2. Political Geography, which is again fubdivided into civil and ecclefiaftical; the former containing a defcription of the political divifions of the earth into Empires, Kingdoms, Principalities, Provinces, &c. whence the articles Germany, China, Mufcovy, France, Spain, &c. and the latter, an account of the ecclefiaftical divifions of it, as Patriarchate, Archbifhopric, Bifhopric, Parifh, &c. 3. The Inftruments and technical terms; as Globe, Map, Equator, Meridian, Pole, Horizon, Longitude, Latitude, Climate, Zone, Amphifcii, Afcii, Perifcii, Antipodes, &c.

(41) Natural History conftitutes a branch of knowledge, on which depends the very life and well-being of mankind: for fo clofe is our connexion with the various productions of mother-earth, that whilft fome ferve us for food and medicine, and others for drefs and ornament, there are others which fupply our manifold neceffities, fhelter us from the inclemency of the weather, defend us from the hoftile attacks of our enemies, whether of the human or brutal kind, waft us over immenfe oceans, and, in fhort, procure us all the conveniencies as well as neceffaries of life. It is from our acquaintance with this ftudy, that we derive any advantage from the ftrength of the ox, the fwiftnefs of the horfe, the fagacity and fiercenefs of dogs, the fleece of the harmlefs fheep, the furs of the fable and ermine-animals, or the feveral productions of thofe ufeful infects, the bee, filk-worm, and cochineal. The vegetable world is no lefs fubfervient to the purpofes of human life. With what profufion does it furnifh our tables! The mineral kingdom likewife contributes its fhare. Who

knows

knows not the uſe of Gold and Silver, of Iron and Copper, of Tin and Lead, of Diamonds and other ſtones, or of Salts and Sulphurs? To theſe we have added a fourth branch more neceſſary than either the animal, vegetable, or mineral kingdoms. Water, Air, and Fire, are the common bleſſings of heaven; without which animal life could not be ſuſtained, plants grow, or, perhaps, minerals be formed. No wonder, therefore, that mankind ſhould proſecute this ſtudy with unwearied application! No wonder, if they erect monuments to thoſe who make new diſcoveries in it!

(42) Zoology, or the ſcience of Animals, is ſubdivided into ſix branches: 1. Quadrupeds, whence Lion, Elephant, Horſe, Camel, Rhinoceros, Ox, Sheep, Bear, Tiger, Bat, Squirrel, &c. 2. Birds, as Eagle, Hawk, Peacock, Swan, Duck, Dove, Heron, Pelican, Phoenicopterus, Cock, Pheaſant, Thruſh, Lark, &c. 3. Amphibious animals, capable of living in water as well as on land: ſuch are the ſeveral kinds of Serpents, Snakes, Lizards, Frogs, Tortoiſes, &c. 4. Fiſhes, whereof ſome have the tail parallel to the horizon, as the Whale-kind, the Dolphin, Porpeſſe, Phyſeter, &c. Some have the rays of their fins cartilaginous, as the Ray-fiſh, Dog-fiſh, Shark, Sturgeon, Iſinglaſs-fiſh, &c. Others have fins with bony and prickly rays, as the Pearch, Gurnard, Ruffe, Sea-Bream, &c. Some again have fins with bony, but not prickly rays: ſuch are the Sand-eels, Turbot, Whiting, Cod, Haddock, Eel, Conger, Salmon, River-bream, Chub, &c. And, finally, others have bony fins, but no oſſicles or ſmall bones in the branchioſtege membrane, as the Sun-fiſh, Lump-fiſh, Toad-fiſh, &c. 5. Inſects, whereof ſome are naked, as the Worm, Leech, Gally-worm, Centipes, Millepes, &c. Others are furniſhed with one or two pair of wings as the Bee, Fly, Beetle, Butterfly, Locuſt, &c. 6. Animalcules, viſible only by the aſſiſtance of microſcopes, of which there are ſeveral kinds.

Subordinate to Zoology are ſeveral arts, which contribute both to profit and pleaſure, as Farriery, Horſemanſhip, Hunting, Fowling, Fiſhing, the management of Cattle, of Fiſh, of Bees, of Silk-worms, of the Kermes and Cochineal Inſects, &c. whence ariſe a multitude of uſeful articles, as Mange, Farcin, Halting, Gelding, Curvet, Volt, Capriole, Ferreting, Hawking, Net, Hound, Beagle, Angling, Cow, Calf, Mare, Foal, Sheep, Lamb, Hog, Pig, Poultry, Bee, Swarm, Hive, Honey, Silk-worm, Kermes, Cochineal, &c.

(43) Botany treats of the claſſes, characters, parts and virtues of plants: whence ariſe many thouſands of articles, as Seed, Flower, Fruit, Root, Trunk, Branch, Wood, Bark, Leaf, Oak, Vine, Sage, Apple, Cherry, Tulip, Violet, Lilly, Tea, Sugar, Reſin, Gum, &c. the characters, preparations, and various uſes of all which are given under their reſpective heads, as has been already mentioned in ſpeaking of Pharmacy.

(44, 45, 46) Agriculture, including Gardening and Husbandry, furniſhes a great many uſeful articles; as Soil, Manure, Tillage, Fallowing, Plough, Drain, Sowing, Marle, Chalk, Clay, Loam, Sand, Incloſure, Hedge, Ditch, Grain, Granary, Wheat, Barley, Planting, Prunning, Grafting, Inoculating, Watering, Hot-Bed, Nurſery, Green-Houſe, Walk, Terrace, Gravel, Border, Wilderneſs, Orchard, Kitchen-garden, Amphitheatre, Wall, Eſpalier, Arbour, Alley, Canal, &c.

(47) Mineralogy treats of all kinds of Foſſils, whether Stones, Earths, or Metals: hence the articles Mine, Ore, Gold, Silver, Iron, Copper, Tin, Lead, Quickſilver, Fluxes, Aſſaying, Dreſſing, Refining, &c. alſo Salt, Sulphur, Bitumen, Amber, Arſenic, Antimony, Cinnabar, Vitriol, Biſmuth, Calamine,

Braſs,

Brafs, Cobalt, Smalt, Zinc, Nitre, Alum, Armoniac, Precious Stones, Cryftals, Flint, Marble, Lime-ftone, Slate, Glimmer, Afbeftus, Ochres, Marles, Chalk, Clay, Sand, Earth, Petrifactions, *&c.*

(48) Hydrology is employed in explaining the Nature, Principles, and Ufes of all kinds of Waters, as Sea-water, Vitriolic Waters, Sulphureous-waters, Chalybeate-waters, Lime-water, *&c.* and hence Spring, Bath, Spaw, Briftol, Pyrmont, Scarborough, Tunbridge, *&c.* Waters. As to the medicated Waters, they belong to Pharmacy.

(49) Hydrostatics conftitute that part of Natural Hiftory which explains the gravity and preffure of water: hence the articles Fluids, Gravity, Preffure, Specific-gravity, Denfity, Rarity, Æquilibrium, Aræometer, Hydroftatical Balance, Diving-Bell, *&c.* Under which we have explained the ufe of thefe machines in Geometry, Commerce, Mechanics, *&c.* alfo for finding the fpecific gravity of folid bodies; whereof we have given a table, as afcertained by the beft writers on thefe fubjects.

(50) Hydraulics treat of the motion of water, and the conftruction of all kinds of inftruments and machines relating thereto. We have therefore confidered this fcience in five different lights, according to the caufes which produce this motion. 1. That arifing from the natural gravity and preffure of the particles of water, which will be explained under the articles Spring, River, Fountain, Fluids, *Jet d'eau, &c.* 2. That arifing from the preffure of the air on the furface of the refervoir, which will be explained under the heads Siphon, Pump, Archimedes's Screw, Preffure, *&c.* 3. The motion of fluids produced by the force of condenfed air, confidered under Water-engine. 4. That occafioned by the force or preffure of piftons, explained under Forcing-pumps. 5. That owing to attraction; whence the articles Tide, Capillary Tubes, Hæmaftatics, *&c.*

(51) Navigation is the art of conducting a fhip through the ocean, from one port to another; by which means a communication is opened between the moft diftant countries, and the delicacies, as well as the conveniencies of life, brought from the Eaft and Weft-Indies; the manufactures and fuperfluities of one country are carried off, and in exchange are brought home the commodities wanted either for home-confumption, for improving and inlarging their manufactures, or as commercial articles to be exported again. As therefore Navigation is the foul of ingenuity, the fpring and fupport of induftry, and the only honourable means of enriching a nation, fo ufeful a fcience deferves to be explained in the fulleft and moft diftinct manner; which has been accordingly done under the articles Mercator's failing, Plain-failing, Current-failing, Middle-latitude-failing, Great Circle-failing, Compafs, Chart, Needle, Variation, Log, Diftance, Departure, Longitude, Latitude, Reckoning, Courfe, Traverfe, Obfervation, Quadrants, Fore-ftaff, Back-ftaff, Aftrolable, Harbour, Port, Sounding, Mooring, Careening, Star-board, Lar-board, *&c.* together with the many articles hereafter mentioned under Ship-building.

(52) Aerology treats of the nature and properties of Air, its Fluidity, Gravity, Elafticity, Denfity, Rarefaction, Principles, Atmofphere, Vapour, Exhalation, *&c.* whence Barometer, Thermometer, Hygrometer, *&c.*

(53) Meteorology treats of the various phænomena obfervable in the atmofphere, as Fog, Cloud, Rain, Snow, Hail, Dew, Rainbow, Water-fpout, Halo,

Halo, Mock-funs, Thunder, Lightening, Aurora Borealis, Fiery Meteors, Caftor and Pollux, Will-with-the-wifp, &c.

(54) Pneumatics are chiefly employed in explaining the force and fpring of the Air, the caufe of Winds, Trade-winds, Monfoons, Hurricanes, &c. alfo the conftruction of Air-pumps, Air-guns, Diving-Bells, Water-bellows, Æolipile, Windmills, Rigging and Sails of Ships, &c. together with the doctrine of Sound, Echoes, &c.

(55) Optics, including Catoptrics and Dioptrics, may be confidered as theoretical or practical. In the firft of thefe views we have explained the nature and propagation of Light, the caufe and Laws of Reflection and Refraction, the different Refrangibility of the rays of Light, the ftructure of the Eye and the nature of Vifion, the appearance of objects through mediums of different forms, and the caufes of the variety of colours obfervable in bodies, as alfo of opacity and tranfparency. With regard to the practical part, we have given the method of grinding Glaffes, Mirrors, Lenfes, &c. and conftructing the moft remarkable Optical inftruments, as Telefcope, Microfcope, Camera Obfcura, Magic Lanthorn, Polemofcope, Polyhedron, Scioptic Ball and Socket, Helioftata, Spectacles, Spying-Glaffes, &c.

(56, 57) Perspective, Drawing, and Painting, are fifter arts, which by means of lines, fhade, and colours, exhibit on a plane the likenefs of natural objects, as they appear to the eye at any height or diftance, or in any attitude or other circumftances. Some of the articles, treated of under thefe heads, are Scenography, Orthography, Ichnography, Stereography, Anamorphofis, Reduction, Plane, Defigning, Engraving, Etching, Draught, Defign, Pentagraph, Claro-Obfcuro, Attitude, Action, Expreffion, Group, Contraft, Limning, Miniature, Frefco, Japanning, Enamelling, Dialling, Drapery, Portrait, Mezzotinto, Colours, Crayon, Proportion, Prototype, &c.

(58) The artificial objects of knowledge are here claffed, according to the principal purpofes they are intended to ferve; fome being employed about Diet, others about Drefs and Equipage, and others about Building and Furniture: fome again are fubfervient to Literature, and others employed about Tools, Inftruments, and Machines of all kinds. We fhall now take a view of the fubdivifions of this laft branch of particular knowledge: And firft of the Arts refpecting

(59) Diet, which affords employments for various artifts and tradefmen, as Bakers, Brewers, Vintners, Cooks, Butchers, Poulterers, Fifhmongers, &c. and hence the articles Baking, Bread, Bifket, Flour, Dough, Oven, Brewing, Ale, Beer, Wine, Cyder, Perry, Mead, Punch, Diftilling, Fermenting, Clarifying, Bottling, Flefh, Fifh, Beef, Mutton, Poultry, Wild Fowl, Venifon, Pork, Bacon, Ham, Cod, Herring, Salmon, Anchovy, Apple, Pear, Peach, Nectarine, Currants, Cherries, Pine-apple, Orange, Melon, &c. alfo Broth, Soup, Jelly, Pudding, Pye, Cuftard, Sauce, Defert, Tea, Coffee, Chocolate, Sugar, Spices, Milk, Cream, Butter, Whey, Cheefe, Marmalade, Burgoo, Ragoo, Fricaffee, and a multitude of other fimilar articles.

(60) Dress and Equipage give rife to ftill more numerous trades, the principal of which are mentioned under this branch in our general fcheme of Knowledge. Hence the articles Cloth, Linen, Silks, Weaving, Fulling, Dying, Bleaching, Printing, Stuffs, Camblet, Brocade, Sattin, Cambric, Lawn, Muflin, Gown, Hat, Stocking, Lace, Fur, Gloves, Shoes, Boots, Saddles, Chariot, Coach, Chair, &c.

(61) ARCHITECTURE, or the art of Building, includes a multitude of subordinate arts, as Mafonry, Carpentry, and thofe of Bricklayers, Tylers, Slaters, Glaziers, Smiths, Plafterers, *&c.* As to Architecture, properly fo called, it confiders the Solidity, Conveniency, Beauty, and Proportion of all manner of Buildings, as Church, Palace, *&c.* The terms, as found in Vitruvius, Palladio, Daviler, *&c.* are explained. The different orders, as Doric, Ionic, Corinthian, Tufcan, Compofite, *&c.* are not only defcribed, but illuftrated by Copper-plates. Hence a variety of ufeful articles, as Building, Foundation, Wall, Window, Door, Gate, Porch, Column, Pedeftal, Bafe, Shaft, Entablature, Capital, Corniche, Freeze, Volute, Module, Modillion, Aftragal, Tore, Chimney, Ceiling, Roof, Floor, Wainfcot, Stair, Hall, Apartment, Chamber, Cellar, Kitchen, Barn, Stable, *&c.*

(62) FORTIFICATION, or MILITARY ARCHITECTURE, comprehends all manner of Buildings and other works erected for the fecurity and defence of a City, Town, or other places of ftrength. Hence the articles Fortrefs, or fortified Town, Fort, Caftle, Citadel, Baftion, Curtin, Rampart, Ditch, or Moat, Counterfcarp, Covered-way, Glacis, Crown-work, Half-moon, Redoubt, Platform, Battery, Mine, Trench, Parallel, Circumvallation, Contravallation, *&c.* all which are in the order of the alphabet, as are the fyftems of Coehorn, Vauban, Scheifter, *&c.* under Fortification.

(63) SHIP-BUILDING, or NAVAL ARCHITECTURE, treats of the Conftruction, Rigging, and different parts of Ships of War and Burden, Sloops, Buffes, Galleys, Barges, Boats, *&c.* Hence the articles Hull, Keel, Stern, Prow, Deck, Quarter-deck, Fore-caftle, Cabin, Maft, Bowfprit, Cordage, Cable, Anchor, Capftan, Pump, Yards, Sails, Tackle, Helm, Steerage, *&c.*

(64, 65, 66) The arts relating to Furniture, Literature, Tools, Inftruments, and Machines, afford employment to a multitude of workmen, fome of whom are mentioned under thefe heads in our general fcheme, where we are likewife pretty full in regard to the works produced by them; all which the reader will find defcribed in their places, and moft of the Tools, Inftruments, and Machines, illuftrated with copper-plates.

Thus we have taken a general furvey of the Arts and Sciences, and pointed out fome of the principal fubjects treated of in this Dictionary; concerning the Utility of which, no reafonable perfon can entertain any doubt: — not the Prince, as having fleets to be equipped, military ftores to be provided, public buildings to be erected, and matters of government to be tranfacted; — not the Nobleman or Gentleman, who have eftates to be improved, gardens to be laid out, mines to be wrought, and other works to be executed; — not the Divine or Philofopher, who will here find every branch of Literature treated in a truly fcientifical and confiftent manner; — not the Merchant or Trader, who without a perfect knowledge of the commodities they deal in, the duties to be paid, the bounties and drawbacks to be received, and other commercial affairs, are liable to be greatly impofed on; — and, laftly, not the Farmer or Mechanic, who will here find an accurate defcription of the Tools and Operations of their refpective arts, with many ufeful hints towards improving them.

A NEW

ARBOR SCIENTIAE EX OBJECTIS DESUMPTA,

OR,

A DISTRIBUTION OF KNOWLEDGE

ACCORDING TO ITS OBJECTS.

KNOWLEDGE is either

- GENERAL, known by the names of METAPHYSICS (1), ONTOLOGY, or FIRST PHILOSOPHY, which treats of Beings in general, considered with respect to their
  - Essences, which are either Spiritual, or Corporeal; whence
    - PNEUMATOLOGY (2).
    - PHYSICS (3)
      - MATHEMATICS (4)
        - ARITHMETIC (5).
        - ALGEBRA (6).
        - GEOMETRY (7) — TRIGONOMETRY (8). SPHERICS (9). CONICS (10).
      - PHYSIOLOGY (11). — DYNAMICS (12). MECHANICS (13).
  - Affections, Attributes, or Predicaments, whence
    - Causalty,
    - Contingency,
    - Necessity,
    - Duration, whence CHRONOLOGY (14).
    - Relation, &c.

or

- PARTICULAR, viz.
  - DIVINE, which is either
    - Speculative, treating of the Being, Attributes, Providence, Worship, &c. of God as deduced from Reason, Revelation; whence Natural, Supernatural THEOLOGY (15).
    - or
    - Practical, comprehending the Creeds, Ceremonies, Fasts, Festivals, Sects, &c. to be found among Christians, Jews, Mahometans, Pagans; whence True, False RELIGIONS (16).
  - HUMAN, respecting Man, considered
    - in General, his Rank and Condition, the Union of Soul and Body, &c. the Science whereof may be termed ANTHROPOLOGY (17).
    - as an Individual, made up of
      - Soul, or Mind, the Faculties whereof are
        - Understanding; whence Apprehension, Judgment, Reasoning, Demonstration; comprehending the Doctrine of
          - Ideas.
          - Propositions.
          - Syllogisms.
          - Method, whether Analytical, Synthetical; whence LOGICS (18).
        - Will, respecting Good, Evil; whence arise
          - Love, — Desire, Hope, Joy,
          - Hatred, — Fear, Aversion, Anger;
          - whence GEORGICA ANIMÆ, or personal ETHICS (19).
        - Memory, as aided by
          - Symbols; whence HIEROGLYPHICS (20). HERALDRY (21).
          - Letters; whence
            - GRAMMAR (22), comprehending Orthography. Etymology. Syntax. Prosody.
            - HISTORY (23).
        - Imagination, as employed about Speech, Verse, Sounds, Arts; whence
          - RHETORIC (24).
          - POETRY (25), subdivided into
            - Epic.
            - Dramatic; whence Tragedy. Comedy. Opera. Pastoral.
            - Allegorical.
          - MUSIC (26).
          - Painting, Sculpture, and the whole body of ARTS (27).
      - Body, considered with respect to its Constituent Parts, Health, Beauty, Vigour; whence
        - ANATOMY (28),
        - MEDICINE (29) subservient to which are PHARMACY (30). CHEMISTRY (31). SURGERY (32).
        - COSMETICS (33),
        - GYMNASTICS (34), comprehending Fencing, Dancing, Boxing, &c.
    - as a Member of Society; whence
      - General ETHICS (35), or the duties which men owe to each other, abstracting from positive institutions.
      - Law
        - of Nations, or the duties which independent and free states owe to each other.
        - of particular States, viz.
          - Municipal, subdivided into Common, or Customary, Statute Law (36).
          - Civil, common to all civilized States.
          - Canon, respecting the clergy and ecclesiastical Polity.
      - GOVERNMENT (37), whether lodged in the hands of the People, the Nobility, a few Persons, a single Person; whence
        - Democracy.
        - Aristocracy.
        - Olygarchy, and hence Duumvirate. Triumvirate.
        - Monarchy.
      - COMMERCE (38); whence Company, Corporation, Exchange, Duty, Bounty, Drawback, Freight, Charter-party, &c.
  - NATURAL, which treats of the
    - Universe; whence Cosmography, subdivided into the Ptolemaic, Copernican, Tychonic Systems of ASTRONOMY (39).
    - Earth; whence
      - GEOGRAPHY (40), subdivided into Natural, Political, Ecclesiastical, describing its
        - Figure and Natural Divisions, as Continent, Island, Ocean, Lake, &c.
        - Political Divisions, as Empire, Kingdom, Province, County, &c.
        - Ecclesiastical Divisions, into Archbishoprics, Bishoprics, Parishes, &c.
      - NATURAL HISTORY (41) describing its natural Productions, as
        - Animals; whence ZOOLOGY (42), or the Science of
          - Quadrupeds; and hence Horsemanship, Hunting, Farriery, &c.
          - Birds, called ORNITHOLOGY; and hence Falconry, Fowling, &c.
          - Amphibious Animals, as Serpents, Lizards, Frogs, &c.
          - Fishes, termed ICHTHYOLOGY; and hence Fishing, &c.
          - Insects, both winged and naked, as Flies, Worms, &c.
          - Animalcules, or Animals visible only by the help of Microscopes.
        - Vegetables; whence
          - BOTANY (43), containing the classes and characters of Plants.
          - AGRICULTURE (44), GARDENING (45), HUSBANDRY (46), describing the Cultivation of Plants.
        - Minerals; whence MINERALOGY (47), which treats of simple, compound, aggregate Fossils, as
          - vitrifiable, calcarious, and incombustible Stones.
          - Ores of Salts, Sulphurs, and Metals.
          - sparry Concretions, Petrifactions, and Earths.
        - Fluids, as Water, Air, Fire, and Light; whence
          - HYDROLOGY (48), HYDROSTATICS (49), HYDRAULICS (50), NAVIGATION (51).
          - AEROLOGY, (52), METEOROLOGY (53), PNEUMATICS (54).
          - OPTICS (55), PERSPECTIVE (56), PAINTING (57).
  - ARTIFICIAL, (58) whether relating to
    - DIET and DOMESTIC OECONOMY (59); whence the various Operations of Baking, Cooking, Brewery, Distillery, Pickling, Curing, &c. together with the many Utensils and Implements belonging to each of them.
    - DRESS and EQUIPAGE (60), whether of Skins, Hair, Wool, Silk, Flax, Cotton and Hemp, Metals, Precious Stones; whence
      - Tanners, Curriers, Shoemakers, Glovers, Sadlers, Coach-makers, &c.
      - Hatters, Hair-spinsters, Brush-makers, Peruke-makers, &c.
      - Clothiers, Weavers, Fullers, Dyers, Woollen-drapers, Taylors, Hosiers, &c.
      - Throwsters, Silk-weavers, Mercers, Mantua-makers, &c.
      - Bleachers, Linen-drapers, Milliners, Thread-spinners, Lace-weavers, &c.
      - Muslin, Callico, Manchester-velvet, Fustian, Canvas, &c.
      - Refiners, Gold-beaters, Gilders, Embroiderers, Lacemen, Sword-cutlers, Buckle and Button-founders, &c.
      - Lapidaries, Diamond-cutters, Jewellers; Ring, Ear-ring, Bracelet, Brilliant, &c.
    - BUILDING, subdivided into
      - ARCHITECTURE (61); whence
        - Masons, Bricklayers, Tylers, Slaters, Carpenters, Smiths, Glaziers, &c.
        - Tuscan, Doric, Ionic, Corinthian, Composite, &c. Orders; also Column, Capital, &c.
        - Church, Palace, House, Hall, Library, Bridge, Door, Window, Chimney, &c.
      - FORTIFICATION (62); whence Castle, Fort, Bastion, Rampart, Moat, Crown-work, Curtin, Horn-work, Half-moon, &c.
      - SHIP-BUILDING (63); whence
        - Ship-carpenters, Anchor-smiths, Cordage-makers, Sail-makers, Sailors, &c.
        - Ships of war and burden, Galley, Sloop, Yacht, Barge, Boat, Sculler, &c.
        - Hull, Deck, Mast, Yard, Bowsprit, Stern, Forecastle, Keel, Cabin, &c.
    - FURNITURE (64); whence
      - Painters, Upholsterers, Joiners, Turners, Bedstead-makers, Cabinet-makers, Black-smiths, Silver-smiths, Carpet-weavers, &c.
      - Tables, Chairs, Chests of Drawers, Beds, Blankets, Buroes, Beaufets, China, Looking glasses, Pictures, Toilets, Plate, Stoves, &c.
    - LITERATURE (65); whence
      - Paper-makers, Letter-founders, Wood-cutters, Printers, Engravers, Bookbinders, Booksellers, Mathematical-instrument makers, &c.
      - Paper, Parchment, Type, Copper-plate, Press, Rolling-press, Ink, Book, Folio, Quarto, Octavo, Desk, Form, Book-case, &c.
    - TOOLS, INSTRUMENTS, MACHINES, &c. (66) whence
      - Plough, Scythe, Sickle, Pruning-hook, Cart, Waggon, Water-mill, Wind mill, Water-works, Wine-press, Powder-mill, Steam-engine, &c.
      - Card, Wheel, Loom, Fulling-mill, Vat, Calender, Reel, Silk-engine, Diamond-cutters wheel, Machines for wire-drawing, &c.
      - Saw, Ax, Plane, Chissel, Gauge, Hammer, Mallet, Sawing-mill, Plummet, Bevel, Crane, Pile engine, Forge, Bellows, Anvil, &c.
      - Rulers, Compasses, Quadrants, Theodolite, Circumferentor, Orrery, Globes, Scale, Balances, Screws, Pullies, Axis and Wheel, Wedge, &c.
      - Watch, Clock, Dial, Barometer, Thermometer, Camera-obscura, Clepsydra, Diving-bell, Telescope, Pumps, Air-pumps, Micrometer, Microscope, &c.
      - Gun, Pistol, Cannon, Mortar, ...n, Ball, Bomb, Bayonet, Sword, Grenado, Drum, Trumpet, Chain-shot, Fire-works, Battering-ram, Ballista, &c.

[To be placed after the Introdu



A NEW

A NEW AND COMPLETE

DICTIONARY

OF

ARTS and SCIENCES.

A, The first letter of the alphabet, and one of the five vowels, is pronounced variously; sometimes open, as in the words *talk*, *war*; and at others close, as in *take*, *wake*.

A is also used, on many occasions, as a character, mark, or abbreviation. Thus, in the calendar, it is the first of the dominical letters: among logicians, it denotes an universal affirmative proposition: as a numeral, A signified 1 among the Greeks; but among the Romans, it denoted 500, and with a dash over it, thus Ā, 5000. The Romans also used it on public occasions for *antiquare*, to antiquate or reject a proposed law; as did the judges of the same people for *absolvo*, I absolve or acquit; whence it had the name of *litera salutaris*. A is frequently also met with, denoting *Aulus*, *Augustus*, *Ager*, *Aiunt*, &c. A. A. stands for *Augusti*; A. A. A. for *aurum*, *argentum*, *aes*; and, among chemists, for *Amalgama*. A. M. is used for *anno mundi*, or *artium magister*. A. A. U. C. for *anno ab urbe condita*; A. B. for *alia bona*; A. C. for *acta causa*, or *alius civis*; and A. D. for *anno domini*. On ancient medals, A stands for *Argos*, and sometimes for *Athens*; but on coins of modern date, for *Paris*. A, *ā* or *āā*, among physicians, denote *ana*, or an equal weight, or quantity, of several ingredients. The letter A is also used by merchants, to signify accepted; among whom it is likewise usual to mark their sets of books with the letters A, B, C, &c. instead of the numbers 1, 2, 3, &c.

A, or AN, is also one of the english articles. See ARTICLE.

AA, in geography, the name of several rivers, in different parts of the world. 1. Of one in the country of Sologne, in France. 2. Of one in french Flanders. 3. Of three in Switzerland. 4. Of five in the Low Countries. 5. Of five in Westphalia. 6. And, lastly, of one in Livonia.

AACH, in geography, the name of a town and river of Swabia. See the article SWABIA.

AADE, or AADA, the name of two rivers, one in the country of the Grisons in Switzerland, and the other in dutch Brabant.

AAR, the name of two rivers, one in Switzerland, and the other in Westphalia.

AATTER, a province of Arabia Felix, situated on the Red-Sea. N. B. There are several other places, sometimes spelled with AA, but more usually with one A: these will be inserted in the alphabetical order, according to the last orthography.

AB, in the hebrew chronology, the eleventh month of the civil, and the fifth of the ecclesiastical, year: it answered to the moon of our July, and contained thirty days.

ABACATUAIA, in ichthyology, an american fish of the acanthopterygious, or prickly-finned, kind. It is a species of zeus, according to Artedi, and greatly resembles the common plaise, both in size and figure. It has five fins, one on the back, and another on the belly, both running to the tail: there are other two at the gills; and the tail, which is considerably forked, makes the fifth. See plate I. fig. 1.

ABACOT, the name of the antient coronet, or cap of state, worn by the english kings, the upper part of which was made up in form of a double crown.

ABACTUS, among antient phyſicians, a term uſed for a miſcarriage effected by art.

ABACUS, in architecture, the uppermoſt member of the capital of a column. See the article CAPITAL.

Vitruvius tells us, that Calimachus, a ſtatuary of Athens, invented this ornament from the following circumſtance. An Athenian old woman happening to place a baſket covered with a ſquare tile over the root of an acanthus, which grew on the grave of a young corinthian lady, the plant, ſhooting up the following ſpring, encompaſſed the baſket all around, till meeting with the tile, it curled back in a kind of ſcrolls. The ſculptor, paſſing by and obſerving it, executed a capital on this plan, repreſenting the tile by the abacus; the leaves of the acanthus by the volutes or ſcrolls, and the baſket by the body of the capital.

In the tuſcan, doric, and ionic orders, the abacus is flat and ſquare; but in the richer orders, its four ſides, or faces, are arched inwards, with ſome ornament, as a roſe or other flower, in the middle of each arch, and its four corners cut off. See plate I. fig. 2.

Scamozzi alſo uſes abacus for a convave moulding in the capital of the tuſcan pedeſtal.

Abacus, or *Abaciſcus*, in the antient architecture, likewiſe denoted certain compartments in moſaic pavements, and the like.

ABACUS, among antient mathematicians, was a table ſtrewed over with duſt, or ſand, on which they drew their figuers or ſchemes.

ABACUS, in arithmetic, an inſtrument for facilitating operations by means of counters. Its form is various; but that chiefly uſed in Europe, is made by drawing parallel lines, diſtant from each other at leaſt twice the diameter of a counter; which placed on the lowermoſt line, ſignifies 1; on the ſecond, 10; on the third, 100; on the fourth, 1000; and ſo on. Again, a counter, placed in the ſpaces between the lines, ſignifies only the half of what it would do on the next ſuperior line. According to this notation, the ſame number, 1754 for example, may be repreſented by different diſpoſitions of counters. See A and B plate 1. fig. 3.

Abacus pythagoricus, a multiplication-table, or a table of numbers ready caſt up, to facilitate operations in arithmetic.

Abacus logiſticus, is alſo a kind of multiplication-table, in form of a right-angled triangle.

Abacus harmonicus, among muſicians, denotes the arrangement of the keys of a muſical inſtrument.

ABAFT, in the ſea-language, a term applied to any thing ſituated towards the ſtern of a veſſel: thus, a thing is ſaid to be abaft the fore maſt, or main-maſt, when placed between the fore-maſt, or main-maſt, and the ſtern.

ABALIENATION, in the roman law, a ſpecies of alienation. See the article ALIENATION.

ABAPTISTON, or ANABAPTISTON, among antient phyſicians, names given to the inſtrument now called a trepan. See the article TREPAN.

ABARTICULATION, in anatomy, the ſame with diarthroſis. See the article DIARTHROSIS.

ABASED, *abaiſſé*, in heraldry, is ſaid of the wings of eagles, &c. when the tip looks downwards to the point of the ſhield, or when the wings are ſhut; the natural way of bearing them being ſpread.

A chevron, pale, bend, &c. are alſo ſaid to be abaſed, when their points terminate in, or below the center of the ſhield. Laſtly, an abaſed ordinary, is one placed below its due ſituation.

ABASING, in the ſea-language, the ſame with ſtriking. See STRIKE.

ABASSI, or ABASSIS, a ſilver-coin, current in Perſia, and ſomewhat leſs than the engliſh ſhilling.

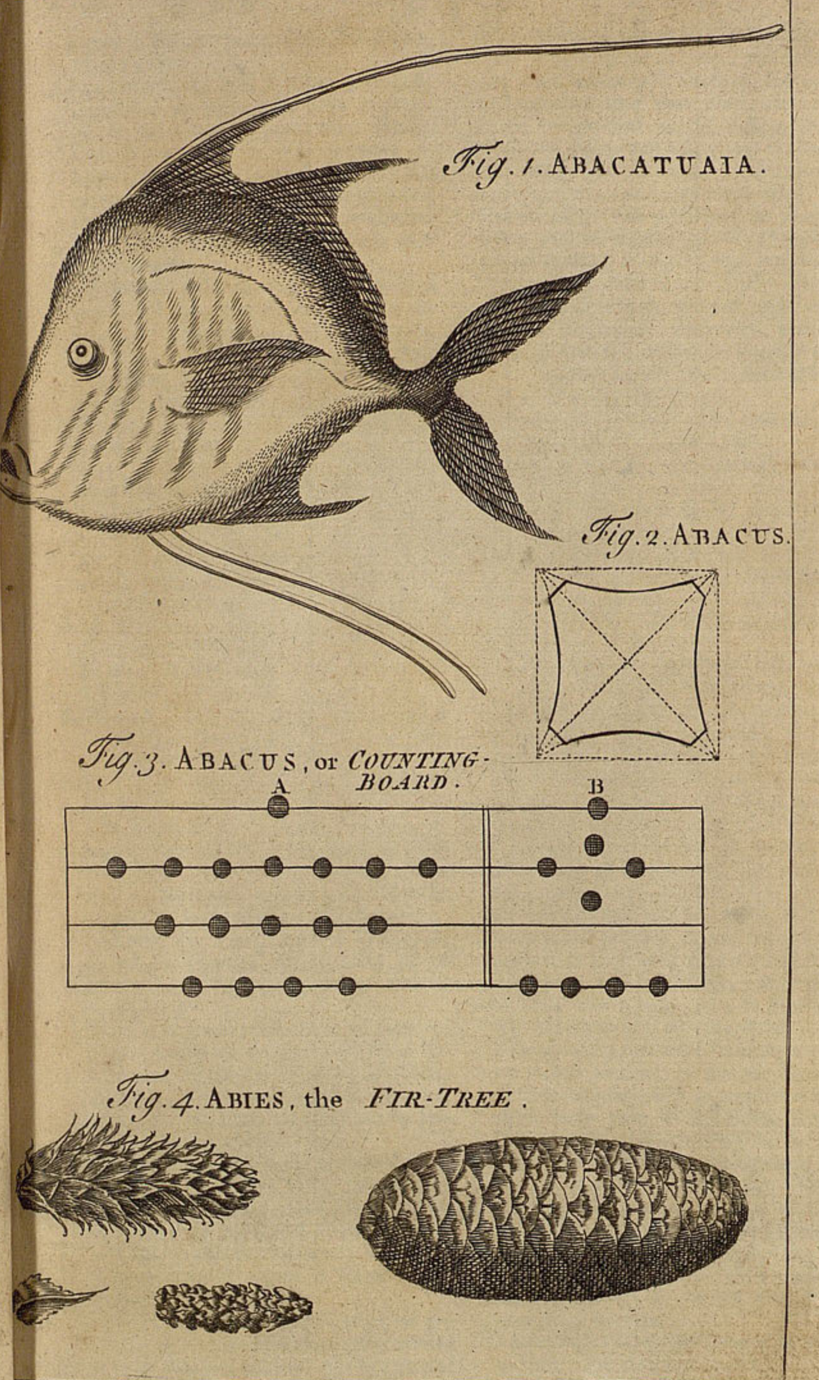
ABATE, in the manege. A horſe is ſaid to abate, or take down his curvets, when he puts both his hinder-legs to the ground at once, and obſerves the ſame exactneſs in all the times. See the article CURVET.

ABATELEMENT, in commerce, a term uſed for a prohibition of trade to all french merchants in the ports of the Levant, who will not ſtand to their bargains, or refuſe to pay their debts.

The abatelement is a ſentence of the french conſul, and muſt be taken off before they can ſue any perſon for the payment of their debts.

ABATEMENT, in a general ſenſe, ſignifies the leſſening or diminiſhing ſomething.

ABATEMENT, in heraldry, ſomething added to a coat of arms, in order to leſſen its true dignity, and point out ſome imperfection or ſtain in the character of the perſon who bears it. Abatements are either made by reverſion or diminution; the whole eſcutcheon being turned upſide down, or another inverted one added, in the former caſe; and as to diminutions, they are either a delf, a point, a point dexter, a point champain, a plain point, a goar



T. Jefferys sculp.

a goar finifter, or two guffets. See DELF, POINT, &c.

ABATEMENT, in law, fignifies the rejecting a fuit, on account of fome fault either in the matter, or proceeding. Hence, Plea in abatement is fome exception alledged, and proved, againft the plaintiff's writ, declaration, &c. and praying that the plaint may abate or ceafe; which being granted, all writs in the procefs muft begin *de novo*.

Abatement is alfo an irregular entry upon houfes or lands, and in this fenfe, is fynonymous with intrufion. See ABATOR.

ABATEMENT, among traders, the fame with what is otherwife called rebate or difcount. See REBATE and DISCOUNT.

ABATIS, or ABBATIS, in middle age writers, an officer in the ftables of princes; fo called, according to Ducange, from batum, an antient meafure of corn.

ABATOR, in law, one who enters into a houfe or lands, void by the death of the laft poffeffor, before the true heir; and thereby keeps him out, till he brings the writ *intrufione*. See INTRUSIONE.

ABB, in our old writers, is ufed for the yarn of a weaver's warp; and hence the wool of which it was made, had the name of abb-wool.

ABBA, a fyriac term, literally fignifying father, and ufed as a title of honour, particularly to a bifhop or abbot.

ABBESS, the fuperior of a convent of nuns. See the article NUN.

The abbefs enjoys the fame privileges, and has the fame authority over her nuns, that the abbots have over their monks; fpiritual functions only excepted, of which the fex renders her incapable. See ABBOT.

ABBEVILLE, a large city of France, fituated in Picardy, ninety miles N. of Paris; its N. Lat. being 50° 7'. and E. longitude 2°.

ABBEY, or ABBY, the name of fuch religious houfes as are governed by a fuperior, under the title of abbot or abbefs. Abbeys differ in nothing from priories, except that the latter are governed by priors, inftead of abbots.

The abbeys of England, at their diffolution under K. Henry VIII. became lay-fees: no lefs than 190 were then diffolved of between 200 *l.* and 35,000 *l.* yearly revenue, which at a medium amounted to 2,853,000 *l. per annum*; an immenfe fum in thofe days.

ABBOT, or ABBAT, the fuperior, or governor of a monaftery of monks, erected into an abbey or prelacy. See MONK and MONASTERY.

The abbots of the primitive monafteries were men of great plainnefs and fimplicity; but afterwards affecting not only preheminence over each other, but even to be independent of the bifhop, there arofe new fpecies and diftinctions of abbots into mitred and not mitred, croziered and not croziered, and œcumenical ones.

Mitred *Abbots* were privileged to wear a mitre, and befides enjoyed the full epifcopal jurifdiction of their feveral precincts. Among us, thefe were called abbots-fovereign, or abbots-general, and were lords of parliament: they were twenty-feven in number, befides two mitred priors. The not mitred ones continued fubject to their diocefan bifhop.

Croziered *Abbots* were thofe entituled to carry a crozier, or paftoral ftaff.

Oecumenical *Abbots*, the fame with univerfal abbots, a title affumed among the Greeks, in imitation of the patriarch of Conftantinople: nor have thofe of the latin church been behind hand with them in this refpect; fome having called themfelves *abbas abbatum*, or the abbot of abbots; and others affumed the title of cardinal-abbot.

Abbots, however, are chiefly diftinguifhed, at prefent, into regular and commendatory; the former being real monks or religious, and the latter only feculars or lay-men. Thefe laft, notwithftanding that the term *commendam* feems to fignify the contrary, have the perpetual enjoyment of the fruits of their abbeys.

Antiently the ceremony of creating an abbot confifted in cloathing him with the habit called *cuculla*, or cowl: putting the paftoral ftaff into his hand, and the fhoes called *pedales*, on his feet; but at prefent, it is only a fimple benediction, improperly called, by fome, confecration.

ABBOT is alfo a title given to others befide the fuperiors of monafteries: thus bifhops, whofe fees were formerly abbeys, are called abbots; as are the fuperiors of fome congregations of regular canons, particularly that of St. Genevieve at Paris: and among the Genoefe, the chief magiftrate of their republic formerly bore the title of abbot of the people. It was likewife ufual, about the time of Charlemaign, for feveral lords to affume the title of *count-abbots*, *abba-comites*; and that for no other reafon, but becaufe the fuper-intendency of certain abbeys was committed to them.

ABBREVIATION, the fame with abbreviature. See ABBREVIATURE.

ABBREVIATOR, in a general fenfe, one who

who abridges, or reduces a long writing into narrow bounds.

Abbreviators, in the chancery of Rome, are officers whose business, according to Campini, is to draw up the pope's briefs, and reduce the petitions granted by the pontiff into proper form. The abbreviators constitute a college of seventy-two persons, divided into two parks, or ranks; the one called *abbreviatores de parco majore*, who are twelve in number, and all prelates; the other, *abbreviatores de parco minore*, called also *examinatores*, who may be all lay-men.

ABBREVIATURE, or ABBREVIATION, properly signifies the substitution of a syllable or letter for a whole word: thus M. stands for *manipulus*, a handful; and Cong. for *congius*, a gallon.

Abbreviature, in a less proper sense, is used for any mark or character. See CHARACTER.

ABBREUVOIR, in masonry, certain indentures made with a hammer, in the joints and beds of stones, in order that the mortar being received into these, may bind them the firmer together.

ABCEDARY, ABCEDARIAN, or ABECEDARIAN, an epithet given to compositions, the parts of which are disposed in the order of the letters of the alphabet: thus, we say abcedarian psalms, lamentations, hymns, &c.

ABDALS, in the asiatic customs, a kind of furious enthusiasts, whose madness makes them frequently run about the streets, and kill all they meet of a different religion from what they profess: this our sailors call *running a muk*.

ABDEST, among mahometans, a kind of washing, or lotion, practised both by Turks and Persians, before prayers, entering the mosque, or reading the alcoran.

ABDIARA, in geography, a kingdom of Asia, dependent on that of Pegu. See the article PEGU.

ABDICARIAN *proposition, abdicaria propositio*, in logic, the same with a negative one. See the article PROPOSITION.

ABDICATION, *abdicatio*, the act of a magistrate, who gives up, or divests himself of an office. It differs from resignation, as this last is done in favour of some other person; whereas abdication is done without any such view. See RESIGNATION.

ABDICATION is also used, by civilians, for a father's discarding his son. This, called likewise *a familia alienatio*, was different from exheredation, or disinheriting, as being done in the father's life-time; whereas exheredation never took place till his death: so that an abdicated son was actually disinherited, but not *vice versa*. This term, among the Romans, was also used for a citizen's renouncing his liberty, and voluntarily becoming a slave.

ABDOMEN, in anatomy, the lower part of the trunk of the body, reaching from the thorax to the bottom of the pelvis. See the article THORAX.

The abdomen is divided, by anatomists, into three anterior regions, *viz.* the epigastric, or upper one; the umbilical, or middle one; and the hypogastric, or lower one: there is also one posterior region, called *regio lumbaris*. See the article EPIGASTRIC, &c.

Each of these regions is likewise divided into three parts, a middle and two lateral ones: thus, in the epigastric region, besides the middle part, we have the right and left hypochondrium; in the umbilical region, the *umbilicus* or middle part, and its lateral parts, the *lumbi* or loins; and, lastly, in the hypogastric region, the middle part is called *pubes*, and its two lateral parts the *inguina* or groins. See HYPOCHONDRIA, &c.

Within the abdomen, besides the stomach and alimentary duct, there are contained the mesentery, mesocolon, omentum, liver, gall-bladder, spleen, pancreas, mesenteric glands, the lacteal vessels, receptaculum chyli, kidneys, renal glands, ureters, bladder, and the internal parts of generation in both sexes. See STOMACH, &c.

The abdomen forms a kind of oblong convexity, like an oval vault, separated from the cavity of the thorax by the diaphragm. It is lined, on the inside, with a strong but soft membrane, called the peritoneum; which surrounds, and contains all the viscera. On the outside, it is guarded by the muscles called obliqui ascendentes and descendentes: together with the rectus transversalis and pyramidalis. See the description of each under its proper article.

The cavity of the abdomen is of an irregularly oval figure, but still symmetrical. On the foreside, it is uniformly arched or oval, and its greatest capacity is about the navel. On the upper side, it is bounded by a portion of a vault, very much inclined. On the back side, it is in a manner divided into two cavities, by the jutting out of the vertebræ of the loins. On the lower side, it contracts all the way to the edge of the pelvis, and

from thence expands again a little, as far as the os coccygis, and the tubercles of the ifcium; terminating in the void fpace between thefe three parts.

It is remarkable of the fkin of the abdomen, that it may be naturally increafed very much in breadth, without lofing any thing confiderable of its thicknefs, as is the cafe in the natural ftates of corpulency and pregnancy.

Difeafes of the ABDOMEN are chiefly inflammations, abfceffes, indurations, inflations, fpafms, &c. See INFLAMMATION, &c.

Wounds of the ABDOMEN. Thefe either affect the common integuments and mufcles only, or they likewife penetrate into the abdomen. Now it is eafy to examine whether this laft be the cafe, by the eye, by a probe or finger, or by injecting warm water into the wound: if the water meets with no obftruction, the wound certainly penetrates; but if it is thrown back, and the probe cannot enter, you may conclude the wound has not penetrated into the cavity of the abdomen.

Wounds which do not penetrate into the cavity are of two forts; for either the common integuments only are hurt, or the mufcles alfo of the abdomen are divided, as far as the peritoneum. Wounds of the firft kind are eafily cured, but thofe of the latter clafs are extremely dangerous, becaufe the inteftines are apt to fall through the wound. Hence the future becomes neceffary to keep the gaping lips of the wound together; after which the wound is to be dreffed with vulnerary balfams, and a fticking plafter: reft and abftinence muft likewife be enjoined the patient, and his bowels kept open by an emollient clyfter.

If the wound be found to penetrate, the furgeon ought to examine carefully whether any of the inteftines be hurt; which he may conclude is not the cafe, when there is no great degree of weaknefs, hæmorrhage, pain, fevers, &c; if when the patient is laid on the wounded fide, there is no difcharge of chyle, gall, excrements, or urine, if milk be injected warm, and return without any alteration of its colour; if the inftrument was not very fharp; and, laftly, if there is no vomiting nor difcharge of blood by the mouth, ftool, or urine, nor any fwelling and hardnefs of the belly.

ABDUCENT, *abducens*, in anatomy, the fame with abductor. See ABDUCTOR.

ABDUCTION, in logic, a form of reafoning, called by the Greeks *apagoge*; wherein, from a certain or undeniable propofition, we infer the truth of fomething fuppofed to be contained in that propofition: thus in this fyllogifm,

> Whatever God has revealed is certainly true:
> Now, God has revealed the myfteries of the incarnation and trinity:
> Therefore, thefe myfteries are certainly true.

In arguments of this kind, it is always neceffary to prove the minor propofition to be contained in the major, or undeniable one, otherwife the reafoning lofes all its force.

ABDUCTION, in furgery, a kind of fracture, wherein the bone being entirely broken near a joint, the two ftumps recede confiderably from each other. See FRACTURE.

ABDUCTOR, or ABDUCENT, in anatomy, a name given to feveral mufcles on account of their ferving to withdraw, open, or pull back the parts to which they are fixed. Of this kind are the *abductor auricularis*, or of the little-finger; the *abductor indicis*, or of the fore-finger; the *abductor labiorum*, called alfo *levator* and *elevator*; the *abductor minimi digiti pedis*, or of the little toe; the *abductor oculi*, or of the eye; the *abductor offis metacarpi digiti minimi*, or metacarpal abductor; the *abductor pollicis*, or of the thumb, called alfo *thenar*; the *abductor pollicis longus*, called alfo *extenfor primus pollicis*; and laftly, the *abductor pollicis pedis*, or of the great-toe. See FINGER, THUMB, TOE, &c.

ABECEDARIAN, the fame with abcedary. See ABCEDARY.

ABEL-TREE, or ABELE-TREE, a name given to the white poplar with large leaves. See the article POPLAR.

ABELMOSCH, or ABELMUSCH, the name of the egyptian *ketmia*, with perfumed feeds, called by us *mufk-feed*. See the articles KETMIA and MUSK-SEED.

ABELOITES, or ABELONIANS, in church-hiftory, a fect of heretics, called alfo abelians, whofe diftinguifhing doctrine was to marry, and yet live in profeffed abftinence; a tenet, which, according to fome authors, they founded on that text, 1 Cor. vii. 29. *Let them that have wives be as though they had none.*

ABERBROTHOCK, one of the royal boroughs of Scotland, fituated in the county of Angus, about forty miles N. of Edinburgh; its W. longitude being 2° 20′.

and

and N. latitude 56° 30′.

ABERCONWAY, a town in Wales. See CONWAY.

ABERDEEN, the name of two cities in Scotland, fituated on the german ocean, in 1° 45′ W. longitude, and 57° 11′ or 12′ N. lat. and called the old and new towns; the former of which was a bifhop's fee, ftanding on the fouthern banks of the river Don; and the latter, which is one of the royal boroughs, and a town of confiderable trade, on the northern bank of the river Dee: fo that, properly fpeaking, the new town only fhould be called Aberdeen, and the old town Aberdon; aber fignifying the mouth or conflux of rivers. There is an univerfity in both towns; that in the old one being called the *King's-College*; and the other, in the new town, the *Marfhal's* or *Earl-Marfhal's college*.

ABEREMURDER, *aberemurdrum*, in our old law books, murder proved in a judiciary way. Aberemurder was a crime that could not be atoned for with money, as moft others might.

ABERGAVENNY, a town of Monmouthfhire, fituated fourteen miles weft of Monmouth, in 3° 12′ W. longitude and 51° 50′. N. latitude.

ABERRATION, in aftronomy, an apparent motion of the fixed ftars, occafioned by the progreffive motion of light. See the article LIGHT.

ABERRATION, in optics, a deviation of the rays of light, when reflected, whereby they are prevented from meeting in the fame point. Aberrations are of two kinds, one arifing from the figure of the reflecting body, the other from the different refrangibility of the rays themfelves: this laft is called the *newtonian aberration*, from the name of the difcoverer.

ABERYSTWITH, a market town in Wales, fituated in 4° 15′ W. longitude, and 52° 30′ N. latitude, about twenty-feven miles N. E. of Cardigan.

ABESTA, in perfian antiquity, one of the facred books of the magi, attributed to their founder Zoroafter. It is a commentary on two others, called *zend* and *pazend*. See the article ZEND.

ABETTOR, or ABBETTOR, in law, the perfon who promotes or procures a crime to be committed: thus, an abettor of murder is one who commands or counfels another to commit it. An abettor, according as he is prefent or abfent at the time of committing the fact, is punifhable as a principal or acceffary. See the article ACCESSARY.

An abettor is the fame with one who is deemed *art and part*, by the law of Scotland. See ART and PART.

ABEX, the name of a large tract of land lying along the weftern coaft of the Red-Sea: it is fubject to the Turks.

ABEYANCE, ABEIANCE, or ABBAYANCE, in law, the expectancy of an eftate or poffeffion: thus, when a parfon dies, the fee of the glebe belonging to his church is faid to be in abeyance during the time the parfonage is void. It is a fixt principle of law, that the fee-fimple of all lands is in fomebody, or elfe in abeyance.

ABIB, in the hebrew chronology, the firft month of their ecclefiaftical year. It was afterwards called nifan, and anfwered to our March.

ABIES, the FIR-TREE, in botany, a fpecies of the pine-tree, the fpecific characters of which are, that the leaves are fingle, and not placed in pairs as in the pine. See plate I. fig. 4. and the article PINE.

The tops and leaves of the fir-tree, are recommended to be taken in diet-drinks for the fcurvy. Rofin, tar, common pitch, burgundy pitch, ftrafburg turpentine, canada balfam, *&c.* are productions of fir; for the defcription and ufes of all which, fee ROSIN, TAR, *&c.*

ABIGEAT, *abigeatus*, in the civil law, the crime of ftealing or driving off cattle in droves, otherwife called *abactus*.

It was more feverely punifhed than fimple theft, *viz.* by a condemnation to the mines, banifhment, or even death itfelf.

ABIGEAT was alfo ufed among antient phyficians, in the fame fenfe with abactus, for a mifcarriage or abortion effected by art. See ABORTION.

ABIGEUS, in the civil law, one who is guilty of the crime abigeat. See the article ABIGEAT.

ABILITY, in a law fenfe, is the power of doing certain actions, principally in regard to the acquifition or transferring of property. Every perfon is fuppofed to have this power, whom the law does not difable. See the article NON-ABILITY.

ABINGTON, a town of Berkfhire, fituated on the river Thames about fifty-five miles W. of London, and five miles fouth of Oxford. It gives the title of earl

earl to the noble family of Bertie.

AB-INTESTATE, *ab inteſtato*, in the civil law. See INTESTATE.

ABISHERING, in our old law books, charters, &c. a liberty or freedom from all amerciaments: alſo a right to the forfeitures of others.

ABJURATION, in law, is uſed for renouncing, diſclaiming, and denying the pretender to have any manner of right to the throne of theſe kingdoms: and that upon oath, which is required to be taken upon divers pains and penalties by many ſtatutes, particularly 1 W. and M. 13 W. III. 1 Anne. 1 Geo. I.

ABJURATION, in our antient cuſtoms, an oath taken by a perſon guilty of felony, and who had fled to a place of ſanctuary, to leave the world for ever. This is much the ſame with what in Scotland is called *ſigning an act of baniſhment.*

ABJURATION *of hereſy*, the ſolemn recantation of ſome doctrine, as wicked and falſe.

ABLACTATION, *ablactatio*, the weaning a child from the breaſt. As nature has taken care to provide an aliment ſuitable to the ſtomachs of new-born infants, ſo it has pointed out directions when to change it for a diet that is more ſolid and difficult of digeſtion. See the article INFANT.

Exerciſe and motion are the grand promoters of digeſtion. Whilſt therefore an infant is incapable of ſufficient exerciſe and motion to digeſt ſolid food, a thin fluid is provided for his ſuſtenance, which is almoſt converted into nouriſhment before it is taken into his ſtomach; and leſt the nurſe ſhould give him improper aliment, providence ſeems to have ſecured his tender ſtomach, in ſome degree, from the miſchiefs of indigeſtion, by denying the infant the uſe of teeth for the firſt months. See the articles DIGESTION and MILK. Hence it will appear, that a child ought not to be weaned till nature points out the proper time, by giving him teeth, and making him capable of taking exerciſe ſufficient to comminute, and afterwards to digeſt, an aliment more ſolid and more difficult to diſſolve than the milk of its mother or nurſe. But becauſe an infant is furniſhed by degrees with the inſtruments of maſtication, and the power of uſing exerciſe, the tranſition from milk to ſolid food ſhould not be ſudden.

It is not poſſible to lay down rules for weaning of children adapted to every caſe that may occur; regard is to be had to the ſtrength and health of the mother or nurſe, as well as of the child. Upon the whole, the method which nature ſeems to point out ſhould be purſued, unleſs ſome circumſtances interfere, which make it impracticable.

ABLACTATION, among the antient gardeners, the ſame with what is now called *grafting by approach.* See the article GRAFTING.

ABLAI, a country of Great-Tartary, the inhabitants of which, called Buchars or Buchares, are ſubject to Ruſſia, but that only for protection. It lies eaſtward of the river Irtis, and extends five hundred leagues along the ſouthern frontiers of Siberia.

ABLAQUEATION, in the agriculture of the antients, an operation called *baring of trees* by our gardeners. See the article BARING.

ABLATIVE, *ablativus*, in latin grammar, the name of the ſixth caſe, which is peculiar to that language. See the article CASE.

The ablative is oppoſed to the dative; the latter expreſſing the action of giving, and the former that of taking away: thus, *ablatum eſt à me*, it was taken from me. It is ſometimes called the comparative caſe, as being much uſed in comparing things together: thus, *dulcior melle*, ſweeter than honey.

Ablative *abſolute*, among latin grammarians, is much the ſame with what in engliſh is called a parentheſis, as, *juvante Deo*, with God's aſſiſtance. It is called abſolute, becauſe governed by no other word.

ABLECTI, in roman antiquity, a ſelect body of ſoldiers, choſen from among thoſe called *extraordinarii.* See EXTRAORDINARII.

ABLEGMINA, in roman antiquity, choice parts of the entrails of victims, called alſo *proficiæ*, *porriciæ*, *proſecta*, and *proſegmina.* The ablegmina, were ſprinkled with flour, and burnt on the altar: the prieſts pouring ſome wine on them.

ABLUENTS, in medicine, diluting medicines, or ſuch as diſſolve and carry off acrimonious and ſtimulating ſalts, in any part of the body, eſpecially the ſtomach and inteſtines.

ABLUTION, in a general ſenſe, ſignifies the waſhing or purifying ſomething with water.

Ablution, in a religious ſenſe, ſignifies a ceremony in uſe among the antients, and

ftill practifed by the Mahometans: it confifted in wafhing the body, which was always done before facrificing, or even entering their temples. This cuftom was probably derived from the Jews; fince we read in fcripture, that Solomon placed at the entry of the temple, which he erected to the true God, a great Laver which the text calls a Brafen fea, where the priefts wafhed themfelves before they offered facrifice, having before-hand fanctified the water, by throwing into it the afhes of a victim that was flain in facrifice.

Ablution, in the church of Rome, was a fmall quantity of wine and water, which the communicants formerly took to wafh down, and promote the digeftion of the hoft. They ftill ufe this term for the water, with which the prieft wafhes his hands after confecrating the hoft.

ABLUTION, among chemifts and apothecaries, is ufed for wafhing away the fuperabundant falts of any body; an operation otherwife called edulcoration. See EDULCORATION.

ABLUTION, among phyficians, is ufed either for wafhing the external parts of the body by baths; or deterging the bowels by thin diluting fluids, as water-gruel, whey, *&c.* Frequent ablutions with warm water are faid to difpofe the body to putrid difeafes, by relaxing its fibres; which is thought to be one reafon, why the plague is fo frequent in the turkifh dominions; the Mahometan religion enjoining conftant ablutions.

ABO, a city of Sweden, and capital of the province of Finland: it is fituated in E. longitude 21° 30′. and N. latitude 60° 30′ at the mouth of the river Aurojoki, on the Bothnic gulph, about two hundred and forty miles N. E. of Stockholm.

ABOLISHING, the fame with abolition. See the next article.

ABOLITION, in a general fenfe, is ufed for deftroying, or utterly eradicating fomething.

ABOLITION, in law, denotes the repealing any law or ftatute, and prohibiting fome cuftom, ceremony, *&c.* Sometimes alfo it fignifies leave granted by the king, or a judge, to a criminal accufer to forbear any farther profecution.

Abolition is alfo ufed by antient civilians and lawyers, for defifting from, or annulling, a legal profecution; for remitting the punifhment of a crime; and for cancelling or difcharging a public debt.

ABOLLA, a military garment, worn by the greek and roman foldiers: it was lined, or doubled, for warmnefs.

ABOMASUS, ABOMASUM, or ABOMASIUS, in comparative anatomy, names ufed for the fourth ftomach of ruminating beafts, or fuch as chew the cud. Thefe have four ftomachs, the firft of which is called *venter*; the fecond, *reticulum*; the third, *omafus*; and the fourth, *abomafus*.

It is in the abomafus of calves and lambs that the runnet is found, ufed for curdling milk. See MILK and RUNNET.

ABORIGENES, in geography, a name given to the original or firft inhabitants of any country; but more particularly ufed for the antient inhabitants of Latium, when Æneas with his Trojans came into Italy.

ABORTION, in medicine, an untimely or premature birth of a fœtus, otherwife called a mifcarriage; but if this happen before the fecond month of pregnancy, it is only called a falfe conception.

Abortion, which is always a dangerous and but too often a fatal accident, may be owing to a multiplicity of caufes; but the moft frequent ones are immoderate fluxes of any kind, violent paffions of the mind, ftimulating medicines, ftrong purges or vomits, fudden commotions of the body, as running, leaping, falls, blows, *&c.* to which we may add a too frequent ufe of venery, copious bleeding in the foot, a debility or laxity of the womb, and a plethoric habit of body: this laft is often the caufe of abortion in young women, pregnant of their firft child.

In order, therefore, to prevent abortion, the above caufes muft be carefully guarded againft. It is likewife conducive to the fame end, to bleed at proper times; as alfo to ufe ftrengthening and attemperating medicines: fuch are nitrous powders, dragon's blood, armenian bole, blood-ftone, plantain-water, *&c.* Aftringent plafters are alfo ordered by Sydenham, to be applied to the region of the loins. However, it ought to be carefully attended to, not to give any thing reftringent either internally or externally, when the abortion is become unavoidable. The figns of an approaching or threatened abortion, are, a fudden flaccidity of the breafts, a conftriction or fubfiding of the belly, a pain in the head and eyes, grinding pains in the ftomach, coldnefs of the extremities, faintings, fhiverings, *&c.*

As

As to the immediate forerunners of an abortion, they are theſe, violent pains in the loins and hips, a dilatation of the orifice of the womb, the formation of waters, an eruption of the ſame, a diſcharge of pure blood, or blood mixed with the waters.

When theſe ſymptoms appear, immediate delivery becomes abſolutely neceſſary, without waiting for ſtrong pains, which ſeldom return after the flooding is grown ſo exceſſive. This is performed in the ſame manner as for a timely birth, for which ſee DELIVERY and BIRTH.

Women ſubject to miſcarriages muſt be very careful to avoid the uſual cauſes of them, *viz.* all violent exerciſes, ſpeaking loud, ſtrong perfumes, diſagreeable ſmells, and above all the embraces of their huſbands: and upon the firſt appearance of an approaching abortion, they ought to confine themſelves to their beds, till the ſymptoms either diſappear, or till it becomes neceſſary to forward the delivery. Opiates mixed with reſtringents are greatly recommended for preventing an increaſe of the ſymptoms, and the bad conſequences thereof, as they take off the ſtimulation, and thereby remove one great cauſe of the hæmorrhage ſo much to be dreaded. The following form is preſcribed by Boerhaave: Take blood-ſtone powdered, armenian bole, and dragon's blood, of each a dram; alſo ſyrup of myrtle, an ounce; ſolid laudanum, three grains; and plantain-water, ſix ounces: mix all together, and let the patient take half an ounce of it every quarter of an hour.

ABORTION is alſo uſed for a fœtus, which, dying in the womb, continues there beyond the uſual time of geſtation.

ABORTION, among gardeners, ſignifies ſuch fruits as are produced too early, and never arrive at maturity.

ABORTIVE, in a general ſenſe, a term uſed for any thing which comes before its due time, or a deſign which miſcarries.

ABORTIVE is, more particularly, uſed for any thing relating to an abortion, in which ſenſe we ſay, *an abortive flux, abortive velom, &c.* See the articles FLUX and VELOM.

ABRA, a ſilver coin of Poland, nearly equivalent to the engliſh ſhilling. See the article COIN.

The abra is current through all the dominions of the grand ſignior, where it paſſes for a fourth part of the dutch dollar, called aſlani in the Levant.

ABRACADABRA, a ſpell or charm, worn about the neck as an amulet againſt ſeveral diſeaſes, particularly the ague. See AMULET, CHARM, *&c.*

However, in order to give it the more virtue, it was to be written as many times as the word contains letters, omitting always the laſt letter of the former: thus,

ABRACADABRA
ABRACADABR
ABRACADAB
ABRACADA
ABRACAD
ABRACA
ABRAC
ABRA
ABR
AB
A

The whole makes a kind of inverted cone, which has this property, that beginning at the apex, and aſcending from the laſt to the right, the letters always form the ſame word. According to Julius Africanus, the pronouncing the word in the ſame manner, will do as well.

ABRAHAMIANS, or ABRAHAMITES, in church hiſtory, heretics who renewed the errors of the Paulicians; a ſect, who, to the doctrines of the Manichees, added an abhorrence of the croſs, which they are ſaid to have employed in moſt ſervile offices, out of mere deſpite.

This name is alſo uſed for another ſect, who ſuffered death for the worſhip of images.

ABRASION, in medicine, the corroding or wearing of the inteſtines, by ſharp and acrimonious humours, or medicines. To remedy this evil, emollient and obtunding medicines are recommended. See the article EMOLLIENTS.

ABRAXAS, a term ſometimes uſed as ſynonymous with abracadabra. See the article ABRACADABRA.

ABRAXAS, in church-hiſtory, a myſtical term expreſſing the ſupreme God, under whom the Baſilidians ſuppoſed 365 dependent deities. It was the principle of the gnoſtic hierarchy, whence ſprang their multitude of Æons. From abraxas proceeded the primigenial mind; from the primigenial mind, the logos, or word; from the logos, the phroneſis, or prudence; from phroneſis, ſophia and dynamis, or wiſdom and ſtrength; from theſe two proceeded principalities, powers, and angels;

angels; from these other angels, to the number of 365, who were ſuppoſed to have the government of ſo many celeſtial orbs committed to their care.

Abraxas, among antiquaries, an antique gem or ſtone, with the word abraxas engraved on it. There are a great many kinds of them, of various figures and ſizes, moſtly as old as the third century.

ABRENUNCIATION, a term of the ſame import with renunciation. See the article Renunciation.

ABRIDGING, the ſhortening, epitomizing, or contracting any book, matter, or thing.

Abridging, in algebra, is the reducing a compound equation to a more ſimple form. See the article Equation.

To prevent the mind's being diſtracted with attending to known quantities, concerning which nothing further is required; and to keep the attention entire for the reſt; mathematicians uſe to abridge their equations, by expreſſing all the known quantities of the ſame term, by a ſingle letter.--For an inſtance: to abridge the equation

$$\begin{array}{lll} x^3 - axx & + abx & - abc = 0 \\ -b & +ac & \\ -c & +bc & \end{array}$$

All the known quantities $-a-b-c$ of the ſecond term are ſuppoſed equal to one ſingle letter $-n$: all the known quantities $+ab+ac+bc$ of the third term, equal to another letter $+p$: and all the known quantities $-abc$ of the fourth term to a ſingle letter $-q$. By which means we have $x^3 - nxx + q = 0$, inſtead of the equation propoſed.

ABRIDGMENT, in literary hiſtory, ſignifies much the ſame with an epitome, or abſtract of a large work. See Epitome.

The perfection of an abridgment conſiſts in taking only what is material and ſubſtantial, and rejecting all ſuperfluities, whether of ſentiment or ſtyle: in which light, abridgments muſt be allowed to be uſeful performances. Abridgments are a very numerous kind of books: we have abridgments of the common law, of the ſtatutes, of the philoſophical tranſactions, of Locke on the human underſtanding, *&c.*

Abridgment, in law, the ſhortening a count, or declaration: thus, in aſſize, a man is ſaid to abridge his plaint, and a woman her demand in action of dower, if any land is put therein, which is not in the tenure of the defendant; for on a plea of non-tenure, in abatement of the writ, the plaintiff may leave out thoſe lands, and pray that the tenant may anſwer to the remainder. The reaſon is, that theſe writs run in general, and therefore ſhall be good for the reſt.

ABROCHMENT, or Abbrochment, *abrochamentum*, in our old law-books, the ſame with foreſtalling. See the article Forestalling.

ABROGATION, *abrogation*, ſignifies the totally repealing and aboliſhing a law, in which ſenſe it differs from derogation, obrogation, *&c.* See Derogation, *&c.* There may be a great many reaſons for abrogating a law, as the inconvenience and bad conſequences ariſing from it, an alteration of circumſtances, a change in the face of affairs, *&c.* which may make the repealing it abſolutely neceſſary.

ABROTANUM, Southern-wood, in botany. See Southern-wood.

ABRUPTION, in ſurgery, the ſame with abduction. See Abduction.

ABRUZZO, in geography, the name of two provinces of the K. of Naples, both lying on the gulph of Venice, and called the farther and nearer Abruzzo in regard to the city of Naples. The farther Abruzzo, is bounded on the weſt by the pope's territories, and ſeparated from the nearer Abruzzo by the river of Peſcara.

ABSCESS, in medicine and ſurgery, an inflammatory tumour, containing purulent matter, pent up in a fleſhy part.

Abſceſs is ſynonymous with apoſtem, impoſthume, and impoſthumation; and is always the effect of an inflammation, which frequently may be diſcuſſed without coming to a ſuppuration, or before an abſceſs is formed. See the articles Inflammation, and Tumour.

When the tumour of an inflammation increaſes, together with the pain, heat, and pulſation depending thereon, and theſe ſymptoms continue three days, all applications, tending to reſolve the tumour, are to be left off; inſtead of which the ſurgeon ought to forward the ſuppuration, by applying emollient and maturating medicines to the part affected. Fats, oils, and glutinous ſubſtances anſwer this purpoſe, by obſtructing the pores of the ſkin. There are alſo a variety of herbs, fruits, ſeeds, roots, gums, and meals, which, if made into pultices, anſwer the ſame end. The moſt noted of theſe are galbanum, ſagapenum, ammo-

niacum,

Fig. 1. ABSINTHIUM, or WORMWOOD.

Fig. 2. ABUTILON.

Fig. 3. ACACIA.

Abscissa

A

2

Fig. 4

P

M

ABSCISSE.

T. Jefferys

niacum, bdellium, opopanax, among the gums: thefe muft be diffolved in yolks of eggs, and fome yeft added. Marfh-mallows, lint-feed, fœnugreek-feed, figs, onions, &c. made in a pultice, with butter, yeft, and honey, and often applied to the part hot, are accounted excellent for ripening abfceffes, which is known to be the cafe, by the foftnefs and whitenefs of the tumours. See the article SUPPURATION.

When the abfcefs is well digefted, it fhould be opened with a fcalpel in the softeft and moft dependent part, that the matter may have the freer exit. If the abfcefs be large, the fcalpel is not to be taken out immediately, but the incifion farther inlarged. Thus, the putrid matter is to be let out, and, when glutinous, gently preffed forth with the hands. In making the incifion, great care muft be taken not to cut the large blood veffels, nerves, and tendons. As to the reft of the cure, it confifts in thoroughly cleanfing, and then healing the ulcer, with mundificative and balfamic medicines. See the article ULCER.

ABSCESS, in farriery, is a purulent tumour incident to feveral animals, as horfes, fheep, poultry, &c.

In horfes, a cataplafm, or pultice, of lime, reduced to a fine powder, and mixt with wine and oil in equal quantities, ought to be applied to the part affected; or one of wheat-flower, fteeped in vinegar, with half an ounce of manna, may be ufed in its ftead.

In fheep, the way is to open the tumour, in what part foever it is found, and after letting out the matter, to pour into the wound fome melted pitch, and burnt falt powdered.

In poultry, they open the abfcefs with a pair of fciffars, preffing out the corruption with their fingers; and then give them lettuce chopped fmall, and mixed with bran fteeped in water, and fweetened with honey, to eat.

ABSCISSE, *abfciffa*, in conic fections, the part A P, (fee plate II. fig. 4) of the diameter of a curve line, intercepted between the vertex A of that diameter, and the point P, where any ordinate or femi-ordinate, M P, to that diameter, falls. From this definition it is evident, that there are an infinite number of variable abfciffes in the fame curve, as well as an infinite number of ordinates.

In the parabola, one ordinate has but one abfciffe; in an ellipfis, it has two; in an hyperbola, confifting of two parts, it has alfo two; and in curves of the fecond and third order, it may have three and four.

ABSCISSION, *abfciffio*, in rhetoric, a figure of fpeech, whereby the fpeaker ftops fhort in the middle of his difcourfe: e. g. one of her age and beauty, to be feen alone, at fuch an hour, with a man of his character. I need fay no more.

ABSCISSION, in furgery, is fometimes ufed for amputation, but more properly for cutting off fome part of the body, when become any wife hurtful: thus we fay the abfciffion of the præpuce, of a lip, &c.

ABSINTHIATED *medicines*, thofe impregnated with the virtues of *abfinthium*, or worm-wood: thus we fay, abfinthiated wine, abfinthiated ale, abfinthiated water, &c. See the next article.

ABSINTHIUM, WORM-WOOD, in botany, a fpecies of artemifia. See the article ARTEMISIA. See alfo plate II. fig. 1. which reprefents the flowers and feeds of worm-wood.

Worm-wood is greatly commended for its medicinal virtues: it ftrengthens the ftomach, removes obftructions of the liver and fpleen, creates an appetite, and deftroys worms. It is alfo ufed in other intentions, for which fee the article WORM-WOOD.

ABSIS, in aftronomy, the fame with apfis. See the article APSIS.

ABSOLUTE, in a general fenfe, denotes fomething which is unconnected with, or independent on others.

Among metaphyficians, an abfolute being is one whofe exiftence depends on no external caufe, or that exifts by a neceffity of its own nature.

ABSOLUTE is alfo an epithet applied to things which are free from limitations or conditions: thus we fay, an abfolute decree, abfolute promife, &c. See DECREE, PROMISE, &c.

ABSOLUTELY, in a general fenfe, that quality or manner of acting whereby a perfon, action, or thing, is denominated abfolute.

ABSOLUTELY, among divines, is ufed for completely, or with full power and effect, independently of any thing elfe: thus catholics hold, that the prieft forgives fins abfolutely; whereas proteftant divines do it only declaratively.

ABSOLUTELY, in geometry, fignifies, entirely, or perfectly: thus, abfolutely round is the fame as perfectly round.

ABSOLUTION, in a general fenfe, the

act of forgiving, pardoning, or releasing.

ABSOLUTION, among civilians, is used for a definitive sentence, declaring the accused person innocent, and releasing him from all farther prosecution.

ABSOLUTION among catholics, a power assumed by the priests to forgive sins absolutely, that is, by virtue of a power inherent in themselves. By stat. 23 Eliz. to procure absolutions from Rome is declared to be high treason.

Protestant divines pretend to no such power, but only declare the scripture terms of pardon.

ABSOLUTION, in the presbyterian church, is chiefly used for a sentence of the church-judicatories, releasing a man from excommunication, and receiving him again into communion.

Absolutio ad cautelam, is a provisional absolution, granted to a person who has appealed from a sentence of excommunication.

ABSOLUTIO *a sævis*, in the roman chancery, is the taking off a suspension or censure, incurred by some of their clergy.

ABSOLUTISM, in matters of theology, a doctrine charged on the calvinists; whereby God is supposed to act from mere pleasure, in regard to the salvation of mankind. Absolutism is the grand obstacle to an union between the lutherans and calvinists.

ABSORBENTS, in the materia medica, such medicines as have the power of drying up redundant humours, whether applied to ulcers, or taken inwardly.

Testaceous powders, boles, chalk, calcined bones, &c. are esteemed the most powerful absorbents; which are chiefly given in disorders, arising from too great an abundance of acids in the stomach.

It is a necessary precaution, to drink diluting liquors along with absorbents; also to take gentle purges, as well during the use of them, as when they are left off.

ABSORBENT *Vessels*, in anatomy, a name peculiarly given to the lacteals opening into the intestines, and serving to imbibe the nutritious juice. See the article LACTEAL VESSELS.

The pores diffused over the body are sometimes also called by this name, from their imbibing air, effluvia, &c.

ABSORBENT *Vessels* is also a name used by some naturalists for the fibres of the roots of plants, which draw nourishment from the surrounding earth. See the article ROOT.

ABSORBING, the swallowing up, sucking up, or imbibing any thing: thus black bodies are said to absorb the rays of light; luxuriant branches, to absorb or waste the nutricious juices, which should feed the fruit of trees, &c.

ABSORPTION, the effects of absorbing. See the article ABSORBING.

Thus we read of absorptions of the earth, when large tracts of land have been swallowed up.

ABSTEMIOUS, an epithet given to persons who use a spare diet, but more especially to those who abstain from wine.

ABSTEMIOUS, *abstemii*, in church-history, a name given to such persons as could not partake of the cup of the eucharist, on account of their natural aversion to wine.

Calvinists allow these to communicate in the species of bread only, touching the cup with their lip; which is deemed a profanation by the lutherans.

ABSTENTUS, among civilians, an heir who is with-held by his tutor from entering upon his inheritance.

Ecclesiastical writers likewise use the word *abstentus* for an excommunicated person.

ABSTERGENTS, in the materia medica, medicines proper for cleansing the body from concretions and other impurities, not to be effected by simple abluents.

Abstergents are of a saponaceous nature, and therefore very different from mere abluents, tho' Castellus represents them as the same.

ABSTINENCE, *abstinentia*, the abstaining or refraining from certain enjoyments; but more especially, from eating and drinking: thus the Jews were obliged, by the law of Moses, to abstain from their wives on certain occasions; and it has always been a practice, to abstain from a luxuriant diet at stated times, as well out of a religious view, as to confirm and preserve health. See the article FAST.

Abstinence is highly extolled by some physicians, and that justly, when no more is meant by it but a proper regimen: but it must have bad consequences, when indulged without a due regard to the constitution, age, strength, &c. of the person who practises it.

ABSTINENTES, in church-history, a sect of antient heretics, who carried abstinence and mortification to an excessive length.

ABSTRACT *idea*, among logicians, the idea

idea of fome general quality or property confidered fimply in itfelf, without any refpect to a particular fubject: thus, magnitude, equity, &c. are abftract ideas, when we confider them as detached from any particular body or perfon.

It is generally allowed, that there are no objects in nature correfponding to abftract ideas: nay, fome philofophers, and particularly the late lord Bolingbroke, difpute the exiftence of abftract ideas themfelves, thinking it impoffible for the human mind to form any fuch.

Abftract ideas are the fame with thofe called univerfal ones, and the manner of forming them, according to modern philofophers, is this: we readily obferve a refemblance among fome of our particular ideas, and thereby get a general notion applicable to many individuals. Thus, horfes are found to refemble each other in fhape, voice, and the general configuration of their parts. Now, the idea which takes in this refemblance, excluding what is peculiar to each individual, becomes of courfe common to this whole family or clafs of animals, and is therefore called a general, univerfal, or abftract idea. See ABSTRACTION and IDEA.

ABSTRACT *terms* or *words*, thofe made ufe of to denote abftract ideas. See the article ABSTRACT *idea*.

ABSTRACT is alfo an epithet given to feveral other things on account of their purity, or univerfality: thus, we fay abftract numbers, abftract mathematics, &c. See NUMBER and MATHEMATICS.

ABSTRACT, in matters of literature, a concife but general view, or analyfis, of fome large work; in which fenfe, it differs from an abridgment only as being fhorter, and its entering lefs minutely into particulars; and from an extract, as this laft is only a particular view of fome part or paffage of it.

ABSTRACTION, in logic, that operation of the mind whereby it forms abftract ideas. See the article ABSTRACT, *fupra*.

The faculty of abftraction ftands directly oppofite to that of compounding. By compofition we confider thofe things together, which, in reality, are not joined together in any one exiftence. And by abftraction, we confider thofe things feparately and apart, which, in reality, do not exift apart. See COMPOSITION.

According to the celebrated Mr. Locke, abftraction is performed three ways. Firft, when the mind confiders any one part of a thing by itfelf, without attending to the whole, as the arm, leg, &c. of a man's body. Secondly, by confidering the mode of a fubftance, without taking in the idea of the fubftance itfelf: thus, geometricians confider the properties of lines, or the length of bodies, without attending to their breadth or depth. Thirdly, by generalizing our ideas in the manner mentioned under ABSTRACT *idea*.

This doctrine, however, of abftraction, is denied by Dr. Berkeley, the late bifhop of Cloyne, who owns that he can imagine a man with two heads, or the upper part of a man joined to the body of a horfe: nay, adds he, I can confider the hand, the eye, the nofe, each by itfelf, abftracted or feparate from the reft of the body, but then whatever hand or eye I imagine, it muft have fome particular fhape and colour; likewife the idea of a man that I frame to myfelf, muft be either of a white or a black, or a tawney, a ftraight or crooked, a tall or a low or a middle fized man. Neither can I, by any effort or thought, conceive an abfolutely abftracted idea, of motion for inftance, diftinct from the body moving, and which is neither fwift nor flow, curvilinear, nor rectilinear; and the like may be faid of all abftract ideas whatfoever.

ABSTRACTION, in chemiftry, the evaporating or drawing off a menftruum from the fubject it had been put to diffolve. Some alfo ufe the word abftraction, as fynonymous with diftillation and cohobation.

ABSTRACTITIOUS, or ABSTRACTIVE, a term ufed by fome chemifts for a fpirit drawn from vegetables, without fermentation.

ABSTRUSE, a term denoting fomething that is difficult, dark, obfcure, and not eafy to be underftood, and accordingly oppofed to what is plain and obvious. Thus, metaphyfics is an abftrufe fcience, as is the new doctrine of infinite feries.

ABSURD, an epithet given to any action, fentiment, &c. which contradicts or runs counter to a manifeft truth, or to the received opinions of mankind: thus, it would be abfurd to affirm, that twelve inches are not equal to a foot: when applied to actions, abfurd is fynonymous with ridiculous. See the articles RIDICULE and ABSURDITY.

There is an argument, called *reductio ad*

ad absurdum; which proves a thing to be true, by shewing the absurdity of the contrary supposition.

ABSURDITY, that error by which any thing may be denominated absurd. See the article ABSURD.

The great cause of absurdity, is in speech. As reason consists in the due use of names and words, absurdity consists in the abuse of them. The highest of all our faculties, and our failings, take their rise from the same thing, language; and are as it were well coupled together, to temper each other, and reduce human nature to a kind of mediocrity.

Hobbes assigns absurdity as a privilege peculiar to man, and which no other creature is capable of: he adds, that of all men, those called philosophers, are most exposed to it. Whence the saying of Cicero: there is nothing so absurd but has been said by a philosopher, *nihil tam absurde dici potest, quod non dicatur a philosopho*. The reason seems to be, that of all men they reason, and discourse most. Yet a nearer and more apposite cause may be assigned; viz. their neglect at setting out, to define the terms they make use of, *i. e.* to assign the precise idea each is made to represent: which is much like a man's undertaking to number, without knowing the value of the numeral figures; reasoning, according to the author first cited, being no other than computing. Divers absurdities also arise from the wrong connecting names into propositions; as first, when the names of bodies are applied to accidents; or the names of accidents to bodies: as in that proposition, faith is infused, or inspired; since nothing is either fusible, or inspirable, but body: and the same absurdity the Cartesians fall into, when they make extension to constitute body, *&c.* Secondly, when the names of accidents inherent in external bodies are attributed to accidents of our own bodies; as when it is said that colour is in the object, found in the air, *&c.* Thirdly, when the names of bodies are attributed to words, or conceptions; as is done by those who assert that there are universal things, that animal is a genus, *&c.* Fourthly, when the names of accidents are given to words, and propositions; as when it is said that the definition is the nature of the thing, or a person's command, is his will. Fifthly, when in lieu of proper words, metaphors and tropes are made use of; as, the way leads to such a place, the proverb says this or that; which though allowable on ordinary occasions, yet is of mischievous consequence in reasoning and searching after truth. Lastly, when names are taken at random, and used without meaning, as transubstantiation, consubstantiation, entelechia, *&c.*

He that can avoid these rocks will not easily fall into an absurdity, except in a very long chain of reasoning, when he may be apt to forget some proposition before laid down.

ABSYNTHIUM, the same with absinthium. See ABSINTHIUM.

ABUCCO, ABOCCO, or ABOCCHI, a weight used in the kingdom of Pegu, equal to twelve teccalis and a half. Two abuccos make an agiro, or giro; two giri make half a biza, which weighs 100 heccalis, that is to say, 2 pound 5 ounces the heavy weight, or 3 pounds 9 ounces light weight of Venice.

ABUNDANT *numbers*, those whose parts added together make more than the whole number: thus the parts of 20, make 22, *viz.* 1, 2, 4, 5, 10.

ABUSE, in a general sense, the perverting something from its true design, purpose, or intention.

ABUSE *of words*, is the using them without any clear and distinct ideas, or without any idea at all. See ABSURDITY.

Self-ABUSE, a phrase sometimes used for the crime of self-pollution. See POLLUTION.

ABUTALS, the boundaries of a piece of land.

ABUTILON, in botany, is, according to Linnæus, a species of sida, the flower of which resembles that of the mallow, but the fruit is a kind of head composed of several bivalve capsules: these are affixed to an axis, and usually contain kidney-shaped seeds. See Plate II. fig. 2. and the article SIDA.

The abutilon is diuretic and vulnerary; its leaves, applied to ulcers and sores, serve to cleanse them; and its seeds taken inwardly, promote urine, and expel the gravel.

ABYSS, in a general sense, signifies any unfathomable depth, or an immense collection of waters.

ABYSS, more particularly, denotes a vast cavern or hollow receptacle, in the center of the earth, filled with water; the existence of which has been disputed by some, and defended by other naturalists. To it has been attributed the origin of

ſprings, the level maintained in the ſurfaces of different ſeas, and their not overflowing their banks, &c. But the queſtion, whether there be ſuch an abyſs or no, ſeems yet undetermined. See the articles EARTH and DELUGE.

ABYSS is alſo uſed for ſeveral other things, as the cavernous bowels of a mountain, or hell, or the bottomleſs pit, the center of an eſcutcheon, a gulph, &c.

ABYSS, in antiquity, a name given to the temple of Proſerpine.

ABYSS, among alchemiſts, is uſed by ſome for the immediate receptacle of the ſeminal matter, and by others for the firſt matter itſelf.

ABYSS, in a metaphorical ſenſe, is applied to any thing that is inſcrutable, or incomprehenſible: thus, the judgments of God are called a great abyſs.

ABYSSINIA, a large empire of Africa, otherwiſe called Ethiopia. See the article ETHIOPIA.

ABYSSINIAN church, that eſtabliſhed in the empire of Abyſſinia: it makes only a branch of the Cophts or Jacobites, a ſect of heretics who admit only one nature in Jeſus Chriſt.

ACACIA, in botany, a ſpecies of mimoſa, the flower of which conſiſts of only one infundibuliform leaf, containing a number of ſtamina: the flowers are uſually collected in cluſters or little heads. The piſtil ariſes from the bottom of the flower, and at length becomes a flat pod, five or ſix inches long, and divided into ſeveral hollow partitions, containing a number of roundiſh ſeeds. See plate II. fig. 3. and the article MIMOSA.

There are a great many varieties of acacia, all which may be propagated with us on hot beds. They belong to the polyandria claſs of Linnæus, and are cultivated by the Chineſe for the ſake of their flowers: theſe they uſe in dying that beautiful yellow, which we find bears waſhing in their ſilks and ſtuffs.

ACACIA, in the materia medica of the antients, a gum made from the egyptian acacia-tree, and thought to be the ſame with our gum-arabic.

ACACIA *germanica*, an inſpiſſated juice, made of wild ſloes, hardly ripe. The true acacia is ſaid to be very ſcarce in the ſhops, where the german acacia is uſed in its ſtead, both being powerful aſtringents, and conſequently good in hæmorrhages, and all kinds of fluxes.

ACACIA, or AKAKIA, in antiquity, a roll or bag repreſented on the medals of the greek and roman emperors: ſome think it is only a handkerchief, which they uſed as a ſignal; others take it for a volume, or roll of memorandums or petitions; and finally, others will have it to be a purple bag filled with earth, to remind the prince of his mortality.

ACADEMIC, ACADEMICIAN, or ACADEMIST, a member of a modern academy. See the article ACADEMY.

ACADEMICS is more particularly uſed for a ſect of antient philoſophers, who maintained that all things were uncertain, and conſequently that men ought to doubt of every thing. They even went ſo far, as to doubt whether or no they ought to doubt; it being a received maxim among them, *ſe nil ſcire, ne hoc quidem, quod nihil ſciant*.

Of this ſect, Socrates and Plato were the founders. Cicero, who was an academic philoſopher himſelf, gives a more favourable account of them. He tells us, that all the difference between the academics, and thoſe who imagined themſelves poſſeſſed of the knowledge of things, conſiſted in this: that the latter were fully perſuaded of the truth of their opinions; whereas the former held many things to be only probable, which might very well ſerve to regulate their conduct, though they could not poſitively aſſert the certainty of them. In this, ſays he, we have greatly the advantage of the dogmatiſts, as being more diſengaged, more unbiaſſed, and at full liberty to determine as our judgment ſhall direct. But the generality of mankind, I know not how, are fond of error; and chooſe rather to defend, with the utmoſt obſtinacy, the opinion they have once embraced, than with candour and impartiality, examine which ſentiments are moſt agreeable to truth. Academ. II. 3.

This paſſage alone, if there were no other proof, is a ſufficient vindication of the academics from the charge of Pyrrhoniſm. See PYRRHONIANS.

ACADEMY, in grecian antiquity, a large villa in one of the ſuburbs of Athens, where the ſect of philoſophers called academics held their aſſemblies. It took its name from one Academus or Ecademus, a citizen of Athens; as our modern academies take theirs from it.

This term was alſo uſed metaphorically, to denote the ſect of academic philoſophers. See the laſt article.

ACADEMY, in a modern ſenſe, ſignifies a ſociety of learned men, eſtabliſhed for the improve-

improvement of arts or ſciences. Some authors confound academy with univerſity; but though much the ſame in latin, they are very different in engliſh. An univerſity is properly a body compoſed of graduates in the ſeveral faculties; of profeſſors, who teach in the public ſchools; of regents, or tutors, and ſtudents who learn under them, and aſpire likwiſe to degrees. Whereas an academy is not intended to teach or profeſs any art, ſuch as it is, but improve it: it is not for novices to be inſtructed in, but for thoſe that are more knowing; for perſons of diſtinguiſhed abilities to confer in, and communicate their lights and diſcoveries to each other, for their mutual benefit and improvement. See the article UNIVERSITY.

ACADEMIES *of antiquity*, are thoſe deſigned for the illuſtration of whatever regards antiquity, as medals, coins, inſcriptions, *&c.*

There are ſeveral academies of this kind in different parts of the world, as at Upſal in Sweden, at Cortona in Tuſcany, at Paris, and at London: theſe two laſt are called, one the academy of inſcriptions and belles lettres, and the other the antiquarian ſociety. See ANTIQUARY.

ACADEMIES *of architecture*. See ACADEMIES *of painting*, infra.

ACADEMIES *of belles lettres*, thoſe chiefly deſigned for the cultivation of eloquence and poetry. Beſides the academy of belles lettres at Paris, and one at Caen, there are ſeveral in Italy, *viz.* one at Florence, and two at Rome.

Chirurgical ACADEMIES, thoſe eſtabliſhed for the improvement of ſurgery: ſuch is that lately inſtituted at Paris; the members of which are not only to publiſh their own and correſpondents obſervations and improvements, but to give an account of all that is publiſhed in ſurgery, and to compoſe a complete hiſtory of this art, by their extracts from all the authors, antient and modern, who have wrote on it. A queſtion in ſurgery is to be propoſed by the academy yearly; and a prize of a gold medal of two hundred livres value to be given him, who furniſhes the moſt ſatisfactory anſwer.

Coſmographical ACADEMIES, thoſe which make geography and aſtronomy the chief objects of their reſearches: ſuch is that called the *argonauts*, at Venice.

ACADEMIES *of dancing*. Of this kind there was one inſtituted by Lewis XIV, with ample privileges.

Eccleſiaſtical ACADEMIES, thoſe which employ their ſtudies in illuſtrating the doctrines, diſcipline, ceremonies, *&c.* that obtained in each age of the church: ſuch is that of Bologna.

Hiſtorical ACADEMIES, thoſe erected for the improvement of hiſtory; ſuch are thoſe at Liſbon and Tubingen.

ACADEMY *of inſcriptions*, *&c.* See ACADEMIES *of antiquity*, ſupra.

ACADEMIES *of languages*, thoſe eſtabliſhed in many parts of Europe, for refining and aſcertaining the language of each country; thus the Paris academy is deſigned to illuſtrate and poliſh the french; that of Madrid, the ſpaniſh or caſtilian, *&c.* But beſides theſe, there others in Italy, Germany, *&c.*

ACADEMIES *of Law*: ſuch are thoſe of Bologna and Beryta.

Medical ACADEMIES, thoſe inſtituted with a view to promote medical knowledge and improvements: ſuch is that of the *Naturæ Curioſorum*, in Germany, and thoſe of Venice, Geneva, Palermo, *&c.* to which ſome add the colleges of phyſicians at London and Edinburgh.

Muſical ACADEMIES. Theſe are frequent in moſt parts of Europe, but more eſpecially in France and Italy.

ACADEMIES *of painting*, *ſculpture*, and *architecture*. There is one of theſe at Paris, and another at Rome.

The academy at Paris conſiſting of the moſt eminent maſters in painting and ſculpture, was founded by M. de Noyers, ſecretary of ſtate to Lewis XIII. This academy at firſt conſiſted of about twenty-five perſons, *viz.* twelve officers called ancients, eleven private members, and two ſyndics. But at preſent it conſiſts of forty painters and ſculptors. There are four perpetual rectors nominated by the king, a director, a chancellor, a ſecretary who keeps the regiſter, and counterſigns the diſpatches; a treaſurer, twelve profeſſors, adjuncts to the rectors and profeſſors, ſix chancellors, a profeſſor for that part of anatomy which relates to painting, and another for perſpective. The academy at Rome was eſtabliſhed by Lewis XIV, and here thoſe who have won the annual prize in the academy at Paris, are received and entertained for three years, and have a penſion from the king, to give them an opportunity of perfecting themſelves. The academy at Paris ſends one of their governors for its preſident.

ACADEMIES *of ſciences*, thoſe chiefly deſigned


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Fig. 1. ACAJOU, the *CASHEW-NUT*.

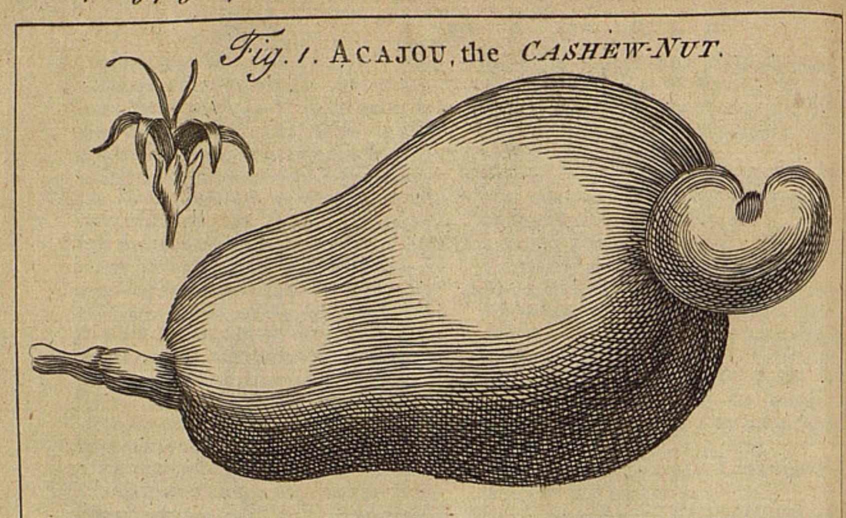


Fig. 2. ACANTHUS, or *BEAR'S BREECH*.

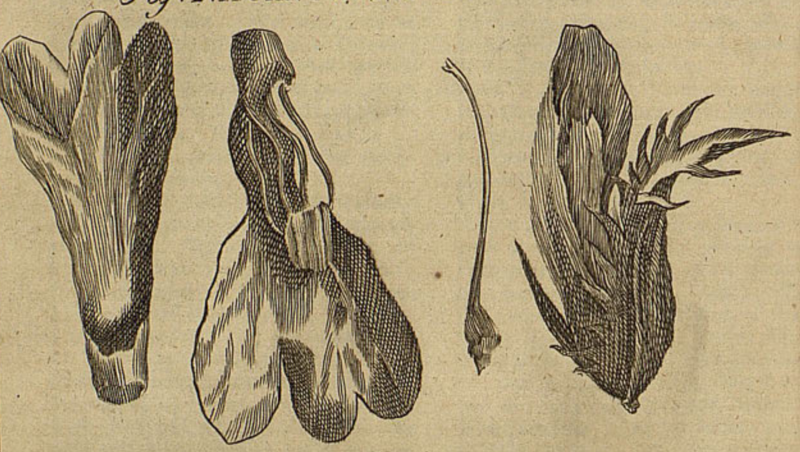
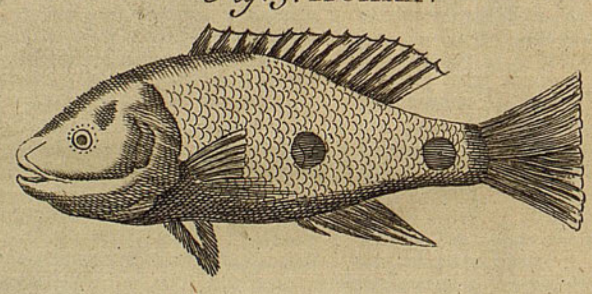


Fig. 3. ACARA.



T. Jefferys sculp.

ſigned for the improvement of natural hiſtory and mathematics, with their numerous branches, botany, chemiſtry, mechanics, aſtronomy, geography, *&c.* Theſe are the moſt numerous of all others, but the moſt noted ones are thoſe at London, Paris, Berlin, Peterſburg, Bologna. That of London is called the Royal Society; and indeed with us, Society is the general term for all eſtabliſhments of this kind, as academy with foreigners. See the article SOCIETY.

ACADEMY is alſo more particularly uſed with us for a kind of ſchools, where youth are inſtructed in various branches of learning. Of this kind, we have two royal ones, *viz.* one at Portſmouth, for teaching navigation, drawing, *&c.* which may be called a naval or maritime academy; and another at Woolwich, where youth are taught fortification, gunnery, *&c.* which may be ſtiled the military academy. Beſides theſe, there are numerous academies, eſpecially in London, for teaching mathematics, languages, writing, accounts, drawing, and other branches of learning. The diſſenters have likewiſe their academies for teaching philoſophy, divinity, *&c.* which give great umbrage to the ſticklers for epiſcopacy.

ACADEMY is alſo a name peculiarly given to a riding ſchool, otherwiſe called the manege. See MANEGE.

ACADEMY *Figures*, in painting, a draught, or deſign, made after a model, with a crayon or pencil.

ACADIE, or ACADY, in geography, a name formerly given to Nova Scotia, or New Scotland, one of our American colonies. See *New* SCOTLAND.

ACÆNA, in grecian antiquity, a meaſure of length, containing ten of their feet. See MEASURE and FOOT.

ACAJOU, the CASHEW-NUT-TREE, in botany, the name of a ſpecies of anacardium. See ANACARDIUM.

The flower of the acajou conſiſts of one funnel-faſhioned leaf, divided into many ſegments at the edges: the piſtil, which is ſurrounded with a number of ſtamina, finally becomes a ſoft turbinated fruit, with a kidney-ſhaped capſule affixed to it, in which is contained a ſeed of the ſame ſhape. See plate III. fig. 1.

The acajou is a native of Braſil, of the fruit of which the Indians make a kind of vinous intoxicating liquor. The kernel of the caſhew-nut may be eaten, when roaſted, but its huſk is extremely acrimonious. The dyers make uſe of the oil drawn from it, in dying black.

ACALYPHA, in botany, a genus of the *monoecia polyandria* claſs of plants; the calyx of the male flowers conſiſts of four ſmall, roundiſh, concave, and equal petals; there is no corolla; in the female flower the calyx is compoſed of three leaves, and there is no corolla; the fruit is a roundiſh, triſulcated, trilocular capſule, with a large, ſingle, roundiſh ſeed in each cell.

ACANACEOUS *Plants*, among botaniſts, thoſe which are prickly, and bear their flowers and ſeeds on a kind of heads.

ACANTHA, among botaniſts, a name given to the prickles of thorny plants.

ACANTHA is alſo uſed by zoologiſts for the ſpines of certain fiſhes, as thoſe of the echinus marinus, *&c.*

ACANTHA is alſo a term uſed by ſome anatomiſts for the protuberances of the back bone, otherwiſe called Spina dorſi. See the article SPINE.

ACANTHABOLUS, in ſurgery, a kind of forceps, or inſtrument for pulling out thorns and other ſharp-pointed bodies, that may have penetrated the ſkin: alſo an inſtrument for pulling hairs from the eye-brows, *&c.*

ACANTHACEOUS, among botaniſts, an epithet given to all the plants of the thiſtle kind, on account of the prickles with which they are beſet. See the article THISTLE.

ACANTHINE, among the antients, ſomething belonging to, or reſembling the herb acanthus: hence we read of acanthine garments, acanthine woods, *&c.* The acanthine garments, according to ſome, were made of the down of thiſtles, but others will have them to be only embroidered in imitation of the egyptian acanthus. They will have the acanthine wood to be the ſame with braſil-wood.

ACANTHOPTERYGIOUS *Fiſhes*, *Acanthopterigii piſces*, among zoologiſts, one of the general claſſes or families of fiſhes, diſtinguiſhed by having the rays of their fins bony, and ſome of them prickly at the extremities.

Under this claſs are contained ſeventeen genera, *viz.* The gaſteroſteus, chætodon, zeus, cottus, trigla, ſcorpæna, trachinus, perca, ſciæna, ſparus, labrus, mugil, ſcomber, xiphias, gobius, blennius, and ophidion: for the deſcription of all which, ſee the articles GASTEROSTEUS, CHÆTODON, ZEUS, *&c.*

ACANTHUS, in botany, a genus of the didynamia

didynamia angioſpermia claſs of plants, the calyx of which is a permanent perianthium: the flower conſiſts of one leaf, the anterior part of which is divided into three ſegments, and the hinder part forms a kind of ring. The piſtil, which riſes from the cup, finally becomes an acorn-ſhaped fruit, containing a number of gibboſe-ſeeds. See plate III. fig. 2.

The acanthus may be known when not in flower, by its beautiful leaves, which are ſo elegant as to be imitated on carvings.

ACANTHUS, in architecture, an ornament repreſenting the leaves of the herb acanthus, and uſed in the capitals of the corinthian and compoſite orders. See the article CAPITAL.

For this purpoſe, the greek ſculptors imitated the leaves of the ſoft acanthus, as the Goths did thoſe of the prickly kind.

ACAPULCO, in geography, a ſea-port town of North America, in W. longitude 102°. N. latitude 17° 30′. It is ſituated in the province of Mexico, on a fine bay of the South-ſea, from whence a ſhip ſails annually to Manila in the Philippine iſlands.

ACARA, in ichthyology, a ſmall braſilian freſh-water fiſh, ſeldom exceeding three inches in length. It has a high back like the pearch, on which ſtands a long fin reaching nearly to the tail, and ſupported by numerous rigid and prickly rays. Its fins are all brown. But what chiefly diſtinguiſhes it is a large black ſpot on the middle of each ſide, and another near the tail. See plate III. fig. 3.

ACARA-AYA, a braſilian fiſh of the ſhape of our carp: it grows to three feet in length, and has two long teeth in the upper jaw, thoſe in the under one being extremely ſharp, numerous, and even. Its tail is broad, and but very little forked. Its belly is white, as are the belly-fins, the others being pale red. It is eſteemed a delicate fiſh, and eaten ſalted as well as freſh. See plate IV. fig. 1.

ACARA-MUCU, the name of a very remarkable ſmall fiſh, about ten fingers breadth long, and four broad. Its mouth is round, very ſmall, and furniſhed with triangular teeth. On the ridge of the back, juſt behind the eyes, there ſtands a ſlender pointed horn, of a cylindrical ſhape, and four fingers breadth long. It is found on the coaſt of Braſil, has no ſcales, and is not eatable. See plate IV. fig. 2.

ACARA-PEBA, a ſmall Braſilian fiſh, about a foot long, and four or five inches broad. Its mouth is large, but without teeth, and its tail is forked. It has one long back fin, the anterior rays of which are rigid and prickly, but the hinder ones ſoft and flexible. It ſeems to be a variety of ſmaris. See SMARIS.

ACARA-PITAMBA, a beautiful braſilian fiſh, reſembling our mullet, and growing to two feet, or more in length. Its tail terminates in two oblique horns; and along the middle of each ſide, there runs a broad and beautiful gold-coloured line, from the gills to the tail. Its back, down to this line, is variegated alſo with ſpots of the ſame colour; and the ſides under the line, are variegated with ſhort, longitudinal lines, of a ſomewhat paler colour than that of the broad line. Its belly is white and its fins yellow. See plate IV. fig. 4.

ACARAUNA, a ſmall american fiſh, called by our ſailors the old wife, of which there are ſeveral ſpecies. They ſeldom exceed four or five inches in length, and are nearly as broad as long. One has a ſharp thorn, or prickle, on each ſide near the tail; theſe it draws in or thruſts out at pleaſure. Another, which is that called the old wife, has four ſharp thorns on each ſide its upper jaw, and two on each ſide the under one: from theſe laſt, which bend downwards, and in ſhape reſemble a cock's ſpur, there runs up a row of ſmall thorns to the eye. See plate IV. fig. 3.

ACARNAN, a ſmall ſea-fiſh, common in the Mediterranean, and ſuppoſed to be the ſame ſpecies with the rubellio, or erythrinus. See plate V. fig. 1. and the article ERYTHRINUS.

ACARUS, in zoology, a numerous genus of inſects, comprehending the lice of ſeveral animals, and the mites in general.

The body of the acarus is ſhort and roundiſh; the eyes are two; and the legs eight in number, each conſiſting of eight joints. The largeſt or longeſt legged acarus is deſcribed in plate V. fig. 2.

ACATALEPSY, *acatalepſia*, among antient philoſophers, the impoſſibility of comprehending ſomething.

The diſtinguiſhing tenet of the pyrrhonians was, their aſſerting an abſolute acatalepſy in regard to every thing. See the article PYRRHONIANS.

ACATALEPTIC, Ακαταληπτικος, in antient

Fig. 1. ACARA-*AYA*.



ACARA-*MUCU*. *Fig.* 2.



Fig. 3. ACARAUNA.



Fig. 4. ACARA-*PITAMBA*.



T. Jefferys sculp.

ent proſody, an appellation given to ſuch verſes as have all their feet complete, in contradiſtinction to thoſe which want a ſyllable to make up the laſt foot.

ACCATERY, or Accatry, an officer of the king's houſhold, deſigned to be a check between the clerks of the kitchen and the purveyors.

ACATIUM, in antiquity, a kind of boat or pinnace uſed in military affairs.

The acatium was a ſpecies of the *naves actuariæ*. See Actuariæ *naves*.

ACAULOSE, or Acaulous, among botaniſts, a term uſed for ſuch plants as have no *caulis*, or ſtem. See Caulis.

ACCALIA, in roman antiquity, ſolemn feſtivals held in honour of Acca Laurentia, Romulus's nurſe: they were otherwiſe called *Laurentalia*.

ACCAPITARE, in our old law books, the act of becoming a vaſſal, or paying homage to ſome lord. Hence,

ACCAPITUM, ſignified the money paid by a vaſſal, upon ſuch an occaſion.

It is likewiſe uſed for the relief due to the chief lord. See Relief.

ACCEDAS *ad curiam*, in law, a writ lying where a man hath received, or fears falſe judgment in a hundred-court, or court-baron. It is iſſued out of the Chancery, and directed to the ſheriff, but returnable in the King's-bench or Common-pleas. It lies alſo for juſtice delayed, and is ſaid to be a ſpecies of the writ *Recordare*. See Recordare.

ACCELERATED motion, in mechanics, is a motion which receives continual increments, or acceſſions of velocity. See the article Motion.

The accelerated motion of falling bodies is produced by the impulſe of gravity, which keeps continually acting upon them, and thereby communicating a new augmentation of motion every inſtant. If this increaſe be equal in equal times, the motion is ſaid to be uniformly accelerated. See Acceleration.

Accelerated motion of bodies on inclined planes. See Inclined Plane.

Accelerated motion of projectiles. See the article Projectiles.

ACCELERATING force, being a ſort of centripetal force, is expreſſed by that velocity, generated in a given time, with which bodies (conſidered as phyſical points) move towards the central body attracting them by its abſolute force. This accelerating force is greater or leſs, according to the diſtance of the center of the force, in a reciprocal duplicate proportion. Thus is the gravity, that makes bodies tend towards the center of the earth, greater in vallies than on the tops of high mountains; greater at the poles than at the equator, which is ſeventeen miles higher; and greater at the equator than at greater diſtances from the center of the earth; for the ſame body, which, near the ſurface of the earth, falls ſixteen feet in the firſt ſecond of its fall, would fall but four in the ſame time, if it began at the height of four thouſand miles from the ſurface of the earth, or two ſemi-diameters diſtance from its center. At equal diſtances the accelerating force is the ſame every where, becauſe all bodies, large or ſmall, heavier or lighter, abſtracting from the reſiſtance of the air, are equally accelerated in their fall. See the articles Force, Centripetal force, Motion, Gravitation, Acceleration, and Descent.

ACCELERATION, in mechanics, denotes the augmentation or increaſe of motion in accelerated bodies. See the laſt article.

The term acceleration is chiefly uſed in ſpeaking of falling bodies, or the tendency of heavy bodies towards the center of the earth produced by the power of gravity; which, acting conſtantly and uniformly upon them, they muſt neceſſarily acquire, every inſtant, a new increaſe of motion.

Thus, in the rectangle A B E D C F, (plate V. fig. 3.) if 1 *a* repreſent the velocity acquired, whilſt a body falls thro' A 1, ſuppoſe one minute; than 2*b* will expreſs the velocity acquired in two minutes repreſented by A 2; 3 *c* the velocity acquired in three minutes, or A 3. and B C the velocity acquired, whilſt the body falls through A B.

Now the triangles A 1 *a*, A 2 *b*, A 3 *c*, and A B C repreſent the ſpaces deſcribed by the falling body in the reſpective times A 1, A 2, A 3, and A B, by reaſon of the uniform action of gravity; but theſe triangles being ſimilar, are to each other as the ſquares of their homologous ſides, A 1, A 2, A 3, A B; that is, the ſpaces are to each other as the ſquares of the times in which they are deſcribed.

Hence alſo follows the great law of acceleration, *viz.* that a falling body, uniformly accelerated, deſcribes, in the whole time of its deſcent, juſt one half of the ſpace it would have deſcribed in the ſame time, with the motion it has acquired at the end of its fall.

From what has been faid, it is evident, that the fpaces defcribed by a falling body in a feries of equal portions of time, will be as the odd numbers 1, 3, 5, 7, *&c.* See the figure above referred to, where the fpace defcribed in the time A 1 is reprefented by the triangle A 1 *a*; whereas the fpace defcribed in the fecond portion of time, contains three fuch triangles; that defcribed in the third portion, five fuch triangles, and fo on.

Again, that the fpaces defcribed by falling bodies in different times, are as the fquares of the velocity acquired at the end of their fall.

As the fpaces reprefented by the odd numbers 1, 3, 5, 7, *&c.* ftill approach nearer and nearer to an equality, fo the accelerated motion likewife approaches nearer and nearer to an uniform motion; and if the body moves in a refifting medium, the motion will actually become uniform, at a certain diftance.

ACCELERATION of the motion of pendulums. See the article PENDULUM.

ACCELERATION is alfo a term ufed in the writings of antient aftronomers, where it fignifies the difference between the revolution of the primum mobile, and that of the fun, computed to be three minutes and fifty-fix feconds.

ACCELERATOR, in anatomy, the name of two mufcles of the penis, fo called from their expediting the urine and femen.

They likewife affift the erectores in the erection of the penis, by driving the blood contained in the cavernous body of the urethra towards the glans, which is thereby diftended; the tumefaction of thefe mufcles at the fame time compreffing the veins that carry off the refluent blood from the corpus cavernofum.

ACCENDENTES, or ACCENSORES, in the church of Rome, a lower rank of minifters, whofe bufinefs it is to light, fnuff, and trim the candles and tapers.

ACCENDONES, or ACCEDONES, in roman antiquity, a kind of officers in the gladiatorian fchools, who excited and animated the combatants during the engagement.

ACCENSI, in Roman antiquity, certain fupernumerary foldiers, defigned to fupply the place of thofe who fhould be killed, or anywife difabled.

Accenfi alfo denoted a kind of inferior officers, appointed to attend the roman magiftrates.

ACCENSION, *accenfio*, the act of kindling, or fetting any body on fire. Thus the accenfion of tinder is effected by ftriking fire with flint and fteel: and what is more furprifing, becaufe lefs common, the accenfion of two cold liquors may be effected by only mixing them together.

ACCENT, in a general fenfe, denotes a certain tone or manner of fpeaking, peculiar to fome nation, country, or province: thus we fay, the fcotch accent, the irifh accent, *&c.*

ACCENT, among grammarians, is the raifing or lowering of the voice in pronouncing certain fyllables of words.

We have three kinds of accents, *viz.* the acute, the grave, and circumflex. The acute accent, marked thus (´), fhews that the voice is to be raifed in pronouncing the fyllables over which it is placed. The grave accent is marked thus (`), and points out when the voice ought to be lowered. The circumflex accent is compounded of the other two and marked thus (˜ or ˆ): it denotes a quavering of the voice, between high and low. Some call the long and fhort quantities of fyllables, accents; but erroneoufly. See the article QUANTITY.

Accents not only give a pleafing variety and beauty to the modulation of the voice, but ferve to afcertain the true meaning of the word, as in *préfent* and *prefént.*

The Chinefe are extremely remarkable for the ufe they make of accents: thus the word *ya*, according to the place on which they place the accent, fignifies God, a wall, an elephant, ftupidity, and a goofe.

The hebrew likewife abounds with accents; there being no lefs than twenty-five tonic accents, fhewing the proper tone of the fyllables over or below which they are placed; befides four euphonic ones, ferving to render the pronunciation more fweet and agreeable. However, it is generally allowed, that the accents now in ufe were unknown to the antient Hebrews.

Concerning the antiquity of the greek accents, authors are not agreed; fome making them of modern date, and others contending for their having been known to the antient Greeks.

ACCENT is alfo ufed for a certain intention or modulation of the voice, to give the ftronger, or even contrary fignification to the fpeaker's words: Thus, we fay, an angry or difdainful accent; by the ufe of which, it is eafy to give an ill meaning to the fofteft expreffions.

In this fenfe we are to underftand lord Bacon,

Bacon, where he obſerves, that there are accents of ſentences as well as of words: complaining that the former has been utterly neglected, whilſt grammarians have beſtowed a great deal of idle pains upon the latter. See EMPHASIS.

ACCENT, in muſic, a certain modulation or warbling of the ſounds, to expreſs paſſions, either naturally by the voice, or artificially by inſtruments.

Every bar or meaſure is divided into the accented and unaccented parts; the former being the principal, on which the ſpirit of the muſic depends.

The harmony ought always to be full, and void of diſcords, in the accented part of the meaſure.

ACCENT, in poetry, the ſame with what is otherwiſe called *reſt*. See REST.

ACCENTOR, in muſic, denotes one of the three ſingers in parts, or the perſon who ſings the predominant part in a trio. See the article TRIO.

ACCEPTANCE, in common law, the tacitly agreeing to ſome act before done by another, which might have been defeated without ſuch acceptance. Thus if a huſband and wife, ſeized of land in right of the wife, make a joint leaſe or feoffment, reſerving rent, and the huſband dies; after which the widow receives or accepts the rent: ſuch receipt is deemed an acceptance, confirms the leaſe of feoffment, and bars her from bringing the writ *cui in vita*.

ACCEPTANCE, among civilians, denotes the conſenting to receive ſomething offered to us, which by our refuſal could not have taken effect; or acceptance is the actual concurrence of the will of the donee, without which the donor is at liberty to revoke his gift at pleaſure.

ACCEPTANCE, in the church of Rome, is particularly uſed for the receiving the Pope's conſtitutions.

The acceptance of the conſtitution *unigenitus*, has occaſioned, and ſtill continues to excite a world of confuſion in the popiſh countries, but more eſpecially in France, where many of the clergy refuſe to accept it.

ACCEPTANCE, among merchants, is the ſigning or ſubſcribing a bill of exchange, by which the acceptor obliges himſelf to pay the contents of the bill. See the article BILLS of *Exchange*.

Bills payable at ſight are not accepted, becauſe they muſt either be paid on being preſented, or elſe proteſted for want of payment.

The acceptance of bills payable at a fixed day, at uſance or double uſance, &c. need not be dated: becauſe the time is reckoned from the date of the bill; but it is neceſſary to date the acceptance of bills payable at a certain number of days after ſight, becauſe the time does not begin to run till the next day after that acceptance: This kind of acceptance is made thus, *Accepted ſuch a day and year*, and ſigned.

In general, he to whom a bill of exchange is made payable ought to demand the acceptance of the perſon on whom it is drawn, and that in the full extent of the terms of the bill, and on refuſal of acceptance to return it with proteſt. This he ought to do for his own ſecurity, as well as for that of the drawer. Thus, if the bearer of a bill conſents to an acceptance at twenty days ſight, inſtead of eight days expreſſed in the bill, he runs the riſk of the twelve days prolongation; ſo that he can have no recourſe againſt the drawer, ſhould the acceptor break in that time. Again, if a bill be drawn for three thouſand pounds, and the bearer agrees to take an acceptance for two only, and ſhould receive no more than that ſum, the remaining thouſand would be at the hazard of the bearer, as well as in the former caſe.

If, therefore, a bill be only accepted in part, or for a longer time than that expreſſed in it, the bearer ought to proteſt it, at leaſt for the ſum not accepted.

Again, if the acceptor breaks or refuſes to make payment when the bill becomes due, it is neceſſary to get the bill immediately proteſted by a public notary, to be ſent along with the proteſt, to the remitter, to procure ſatisfaction from the drawer.

By ſtatute, inland-bills of exchange muſt be accepted by ſigning or endorſing in writing, and proteſted for refuſal of ſuch acceptance, otherwiſe the drawer is not liable to coſts; it muſt likewiſe be returned to the drawer within fourteen days. However, ſuch proteſt is not neceſſary unleſs the value be acknowledged in the bill to be received, and unleſs the bill be drawn for 20*l*. or upwards.

A bill drawn on two jointly muſt have a joint acceptance, otherwiſe be proteſted; but if on two or either of them, the acceptance of one is ſufficient.

ACCEPTATION, in grammar, denotes the meaning or ſenſe wherein a word is generally taken. Thus we ſay, ſuch a word has ſeveral acceptations.

ACCEPTATION, in law, the ſame with accept-

acceptance. See ACCEPTANCE.

ACCEPTER, or ACCEPTOR, *of a bill of Exchange*, the person who accepts it. See the article ACCEPTANCE.

The acceptor is obliged to pay the contents of the bill, even though the drawer should fail before it becomes due.

ACCEPTILATION, among civilians, signifies an acquittance given by a creditor to a debtor, without receiving any money.

ACCEPTION, the same with acceptation. See the article ACCEPTATION.

ACCESS, in a general sense, denotes the approach of one thing towards another; but it is more proper to say, the approach of bodies, the appulse of the planets, &c.

ACCESS, in a more limited sense, is used for permission or leave to come near any person, place, or thing: thus we say, it is difficult to get access to such a person, or place.

ACCESS, among physicians, is used for the beginning of a paroxysm or fit of some periodical disease: thus we say, an access of a fit of the ague, an intermitting fever, the gout, &c. See the article PAROXYSM.

ACCESSARY, or ACCESSORY, in law, a person who is in any wise aiding in the commission of some felonious action.

By statute, he who counsels, abets, or conceals the committing of such an action, or the person who has committed it, is deemed an accessary. There are two kinds of accessaries, *viz.* before the fact, and after it. The first is he who commands and procures another to commit felony, but is absent when it is done: for if he be present, he is a principal. The accessary after the fact is one who receives, comforts, or assists the felon; knowing him to be such.

In the highest crimes, as high treason, &c. and the lowest, as riots, forcible entries, &c. there are no accessaries, but all concerned are principals. It is a maxim among lawyers, that where there is no principal, there can be no accessary; so that it is necessary the principal be first convicted, before the accessaries can be arraigned. However, if the principal cannot be taken, the accessary may be prosecuted for a misdemeanor, and punished by fine, imprisonment, &c. Accessaries in petty treason, murder, and felony, are not allowed their clergy. See *Benefit of* CLERGY.

A wife may assist her husband, without being deemed accessary to his crime; but not *e contra*. A servant assisting his master to escape, is reckoned an accessary; also furnishing others with weapons, or lending them money, &c. will make persons accessaries. Persons buying or receiving stolen goods, knowing them to be such, are deemed accessaries to the felony. Also if the owner of stolen goods, after complaint made to a justice, take back his goods, and consent to the escape of the felon, he becomes accessary after the fact.

ACCESSIBLE, something that may be come at, or approached to: thus, we say, such a place is only accessible on one side, &c.

For the geometrical admeasurement of accessible heights and distances. See the articles HEIGHT and DISTANCE.

ACCESSION, a term of various import: thus, among civilians, it is used for the property acquired in such things as are connected with, or appendages of other things: among physicians, it signifies the same with what is more usually called paroxysm: among politicians, it is used for a prince's agreeing to, and becoming a party in a treaty before concluded between other potentates: again, it more particularly denotes a prince's coming to the throne by the death of the preceding king: and lastly, it is used by romanists for a peculiar way of electing a pope; which is, when one candidate has got two thirds of the votes, the rest are inrolled by accession.

ACCESSORY, in law, the same with accessary. See the article ACCESSARY.

ACCESSORY *nerve*, ACCESSORIUS *Willisii*, or *Par* ACCESSORIUM, a kind of ninth pair of nerves of the neck; which arising from the spinal marrow in the vertebræ of the neck, enters the cranium by the great foramen in the os occipitis. Here it is joined by the par vagum, and coming out of the cranium again by the same aperture, it recedes from the par vagum, and is bent back to the trapezius, a muscle of the shoulder.

ACCESSORY, among painters, an epithet given to such parts of an history-piece as serve chiefly for ornament, and might have been wholly left out: such are vases, armour, &c.

ACCIDENCE, in literary history, the name given to a small book, containing the rudiments of the latin tongue.

ACCIDENT, *accidens*, in a general sense, denotes something that is unusual, or falls out by chance.

ACCIDENT, among logicians, is used in a three-fold sense. 1. Whatever does

not

not effentially belong to a thing, as the cloaths a man wears, or the money in his pocket. 2. Such properties in any fubject as are not effential to it; thus whitenefs in paper is an accidental quality. 3. In oppofition to fubftance, all qualities whatever are called accidents, as fweetnefs, foftnefs, &c.

Abfolute ACCIDENT, is ufed by the romifh church for an accident, which may poffibly fubfift, at leaft miraculoufly, without any fubject; an abfurdity, which has been ftrenuoufly maintained by many of their cafuifts, and even folemnly decreed by fome of their councils.

ACCIDENT, in heraldry, an additional note or mark in a coat of arms, which may be either omitted or retained, without altering the effence of the armour.

ACCIDENTS, in aftrology, denote the moft remarkable occurrences in the courfe of a man's life: fuch are a remarkable inftance of good fortune, a fignal deliverance, a great ficknefs, &c.

ACCIDENT, among phyficians, is fometimes ufed for what is more ufually called fymptom. See SYMPTOM.

ACCIDENTAL, in a general fenfe, an appellation given to fuch things as happen by accident. See ACCIDENT.

ACCIDENTAL *point*, in perfpective, that point in the horizontal line, where all lines parallel among themfelves meet the perfpective plane.

ACCIDENTAL *dignities* and *debilities*, in aftrology, certain cafual difpofitions of the planets, whereby they are fuppofed to be either ftrengthened or weakened.

ACCIPENSER, in ichthyology, a genus of chondropterygious fifhes, the mouth of which is tubular, and has no teeth; there is only one hole or aperture of the gills on each fide; and the body is oblong and ufually furnifhed with feven fins. See CHONDROPTERYGII.

Of this genus there are only two fpecies, the fturgeon and hufo, or ifinglafs-fifh. See STURGEON and ISINGLASS.

ACCIPITER, in ornithology, the name of a whole order of birds, the diftinguifhing characteriftic of which is, that they have a hooked, or crooked beak.

This order comprehends three genera, *viz.* the parrot, owl, and hawk-kind. See PARROT, &c.

ACCISMUS, in antiquity, denotes a feigned refufal of what one earneftly defires.

The accifmus was a piece of political diffimulation, for which Auguftus and Tiberius are famed.

ACCISMUS, in rhetoric, is accounted a fpecies of irony. See IRONY.

ACCLAMATION, *acclamatio*, in roman antiquity, a fhout raifed by the people, to teftify their applaufe, or approbation of their princes, generals, &c.

Such is that of Ovid, Faft. I. 613.

Augeat imperium noftri ducis, augeat annos.

ACCLAMATION is alfo ufed, in a bad fenfe, for expreffions of deteftation, &c. Vid. Suet. Domit. c. 23.

ACCLAMATION, in rhetoric, the fame with what is otherwife called epiphonema. See EPIPHONEMA.

ACCLAMATION *medals*, among antiquaries, thofe whereon the people are reprefented as expreffing their joy by acclamation.

ACCLIVIS, in anatomy, the name by which fome call the obliquus afcendens. See OBLIQUUS.

ACCLIVITY, a term ufed to denote the afcent of a hill or rifing ground, as declivity is the defcent.

Acclivity is fometimes ufed by writers on fortification, for the talus of the rampart. See TALUS.

ACCOLA, among the Romans, fignified a perfon who lived near fome place; in which fenfe, it differed from incola, the inhabitant of fuch a place.

ACCOLADE, in antient cuftoms, the ceremony of conferring knighthood, by the king's laying his arms about the young knight's neck, and embracing him.

ACOLLE'E, in heraldry, a term ufed in different fenfes: fometimes two things joined together; at other times, animals with collars, or crowns about their necks, and finally, battons, or fwords, placed faltierwife behind the fhield.

ACCOMMODATION, among divines, is the applying what is faid of one perfon or thing, to another: thus, the words of Ifaiah, directed to the Jews of his time, are by St. Paul accommodated to the Jews who were cotemporaries with that apoftle.

ACCOMMODATION is alfo ufed for an amicable agreement, between two or more contending parties.

ACCOMPANYMENT, in mufic, is ufed for the inftruments which accompany a voice, to make the mufic more full.

Among the moderns, the accompanyment

ment frequently plays a different part or melody, from the ſong it accompanies; but authors are not agreed, whether or no it was ſo among the antients.

Accompanyment, in heraldry, denotes any thing added to a ſhield by way of ornament, as the belt, mantling, ſupporters, &c.

Accompanyment is alſo uſed for ſeveral bearings about a principal one, as a ſaltier, bend, feſs, &c.

ACCOMPLICE, in law, a perſon who is privy to, or aiding in the perpetration of ſome crime. See Accessary.

By the law of Scotland, accomplices cannot be proſecuted till the principal offenders are firſt convicted. See the article Art *and* Part.

ACCOMPLISHMENT, in a general ſenſe, denotes the perfecting, or entirely finiſhing and compleating any matter or thing.

Accomplishment is more particularly uſed for the fulfilling of a prophecy; in which ſenſe, we read of a literal accompliſhment, a myſtical accompliſhment, &c. See the article Prophecy.

Accomplishment is ſtill more particularly uſed for the acquirement of ſome branch of learning, uſeful art, polite exerciſe, &c.

ACCOMPT and **ACCOMPTANT**. See Account and Accountant.

ACCORD, in muſic, the ſame with what is more uſually called concord. See Concord.

Accord, in law, a verbal agreement between two or more, where any one is injured by a treſpaſs, or other offence committed, to make ſatisfaction to the injured party; who, after the accord is performed, will be barred in law from bringing any new action againſt the aggreſſor for the ſame treſpaſs. It is ſafeſt, however, in pleading, to alledge ſatisfaction, and not accord alone; becauſe in this laſt caſe, a preciſe execution in every part thereof muſt be alledged; whereas, in the former, the defendant needs only ſay, that he paid the plaintiff ſuch a ſum in full ſatisfaction of the accord, which he received.

ACCOUNT, or Accompt, in a general ſenſe, is uſed for all arithmetical computations, whether of time, weight, meaſure, money, &c.

Account is alſo uſed collectively, for the books in which merchants, traders, and bankers enter all their buſineſs, traffic, and bargains with each other.

The method of keeping theſe is called book-keeping. See Book-keeping.

To open an Account, is to enter in the ledger, the name, the ſurname, and the place of abode of the perſon with whom you have dealings; after which the ſeveral articles are to be poſted or placed either on the credit or debit ſide, according as the perſon is become your creditor or debtor.

To place or poſt a ſum to Account, is to enter it into the ledger, either on the debit or credit ſide, according as the perſons are become debtors or creditors.

To examine an Account, is to read it exactly, in order to prove the truth of the computation, or detect errors, if there are any.

To ſettle an Account, is to ſum up all its articles, both on the debit and credit ſide, and find the balance between them; which being placed on the leaſt ſide, makes the ſum of both equal: this is otherwiſe called *ſhutting, balancing, cloſing*, or *making up* an account.

Account *in Company*, an account kept by traders in partnerſhip, wherein all articles relating to their joint trade are entered.

Account is alſo uſed in different ſenſes, as for profit, hazard, &c. thus we ſay a man has found his account in ſomething, or it has turned to good account; alſo, if a man commits errors, they ſhall be on his own account, &c.

Account, in law, is a writ or action, which lies againſt a perſon, who, by reaſon of his office or buſineſs, is obliged to render an account to another, but refuſes to do it; as a bailiff, for inſtance, to his lord.

Account, in the remembrancer's office in the exchequer, is the ſtate of any branch of the king's revenue; as the account of the mint, of the wardrobe, of the army, of the navy, &c.

Chamber of Accounts, in the french polity, a ſovereign court, anſwering nearly to our exchequer. See the article Exchequer.

Account *of ſales*, among merchants, an account of the diſpoſal and net-proceeds of certain merchandizes, after deducting charges and commiſſion.

Auditing an Account, the examining and paſſing it by an officer appointed on purpoſe.

ACCOUNTABLE, a term ufed to denote a perfon's being liable to be called to account. See the article Account.

ACCOUNTANT, or Accomptant, in a general fenfe, denotes one whofe bufinefs it is to keep accounts. See the article Account.

The term accountant is applicable, in a more reftricted fenfe, to a perfon, or officer, appointed to keep the accounts of a public company or office: thus, we fay the accountant of the South-Sea, of the India-Company, of the Bank, of the Cuftom-houfe, of the Excife, *&c.*

Accountant-*general*, in the court of Chancery, a new officer appointed by act of parliament to receive all monies lodged in court, and convey the fame to the bank of England for better fecurity. The falary of this officer and his clerks is to be paid out of the intereft made of part of the money; it not being allowable to take fees in this office.

ACCOUNTANTSHIP, a term ufed to denote the art of keeping merchant's accounts, more ufually called book-keeping. See the article Book-keeping.

ACCOUNTING-HOUSE, Counting-House, or Compting-House, a place or office fet apart by merchants and other traders, in which to keep their books of accounts, and vouchers belonging to them, as well as to tranfact their bufinefs.

ACCOUTREMENT, an old term, fignifying drefs, ftill ufed for the furniture of a foldier.

ACCRETION, in natural hiftory, the increafe or growth of a body by an external addition of new parts: thus it is, falts, fhells, ftones, *&c.* are formed.

Accretion, among civilians, a term ufed for the property acquired in a vague or not occupied thing, by its adhering to or following another thing already occupied; thus, if a legacy be left to two perfons, and one of them die before the teftator, the legacy devolves to the furvivor by right of accretion. Alluvion is another inftance of accretion. See the article Alluvion.

ACCROCHE', in heraldry, denotes a thing's being hooked into another.

ACCROCHING, in our old law-books, is ufed for incroaching, or ufurping upon another man's right.

ACCRUE, or Accrew, in law, is faid of a thing that is connected as an appendage to fomething elfe.

ACCUBATION, in antiquity, the pofture ufed among the Greeks and Romans at table: which was with the body extended on a couch, and the head refting on a pillow, or on the elbow, fupported by a pillow.

Pitifcus tells us the manner in which the guefts were difpofed, which was this: a low round table was placed in the dining-room, about which ftood fometimes two, but more ufually three beds or couches; from the number whereof the dining-room got the name of *Biclinium* or *Triclinium.* Thefe couches were covered with richer or plainer cloaths, according to the quality of the perfon, and furnifhed with quilts and pillows. Each couch ufually contained three perfons: it being deemed fordid to crowd more. The firft lay at the head of the bed, with his legs extended behind the fecond; who lay in the fame manner in regard to the third. The middle place paffed for the moft honourable. However, before placing themfelves, they always took care to pull off their fhoes, and put on what was called the *veftis cœnatoria.*

ACCUMULATION, in a general fenfe, the act of heaping or amaffing things together.

Accumulation, among lawyers, denotes the concurrence of feveral titles to the fame thing, or of feveral circumftances or proofs to make out one fact.

Accumulation, among antient gardeners, was the covering the roots of trees by throwing on them the earth which had been dug up in ablaqueation. See the article Baring *of trees.*

Accumulation *of degrees*, in an univerfity, the taking feveral of them together, or at fmaller diftances from each other than ufual, or than the rules allow of.

ACCURSED, in a general fenfe, denotes fomething that is deteftable, or a perfon abandoned to impiety and wickednefs. See the article Anathema.

Accurfed is more particularly ufed for an excommunicated perfon. See the article Excommunication.

ACCUSATION, among civilians, the bringing a criminal action againft any perfon; in which fenfe, it differs only in circumftances from what among us is called impeachment. See the article Impeachment.

Writers on politics treat of the benefit and the inconveniences of public accufations. Various arguments are alledged, both for the encouragement and the difencou-

ragement of accuſations againſt great men Nothing, according to Machiavel, tends more to the preſervation of a ſtate, than frequent accuſations of perſons truſted with the adminiſtration of public affairs. This, accordingly, was ſtrictly obſerved by the Romans, in the inſtances of Camillus, accuſed of corruption by Manlius Capitolinus, *&c.* Accuſations, however, in the judgment of the ſame author, are not more beneficial than calumnies are pernicious; which is alſo confirmed by the practice of the Romans. Manlius not being able to make good his charge againſt Camillus, was caſt into priſon.

ACCUSATIVE, among latin grammarians, the fourth caſe, which is always governed by an active verb or prepoſition, expreſſed or underſtood: thus, *amo deum*, I love God; *eo Londinum*, i. e. *eo ad, vel verſus Londinum*, I am going to London, or I am on my way to London.

ACE, among gameſters, a card or die marked only with one point.

ACEPHALOUS, in a general ſenſe, denotes ſomething without a head: thus we read of many fabulous ſtories, in antient geographers, as well as in ſome modern voyages, of nations without heads, whoſe eyes, mouth, *&c.* were placed in their breaſts or ſhoulders.

But how unaccountable ſoever it may be to repreſent whole nations as acephalous, nothing is more certain, than that there are many inſtances of acephalous births, or children born without heads.

ACEPHALOUS, in our old law books, an appellation given to ſuch poor perſons as held nothing of any ſuperior.

ACEPHALUS, any verſe which is defective in the beginning.

ACER, the maple-tree, in botany. See the article MAPLE.

ACERB, a taſte partaking of a great deal of ſourneſs, joined to a certain degree of roughneſs and aſtringency; ſuch is that of unripe fruits.

ACERENZA, or CIRENZA, a town of the kingdom of Naples, ſituated at the foot of the Apennine: It is the capital of the province Baſilicato. E. longitude 16° 45′ N. latitude 40° 40′.

ACERNO, or ACIERNO, a town of the kingdom of Naples, about thirty miles S. E. of Naples. E. longitude 15° 40′ N. latitude 40° 50′

ACERRA, in antiquity, a kind of altar erected near the bed of a dead perſon, on which incenſe and other perfumes were burnt till the time of the burial. See the article BURIAL.

ACERRÆ alſo denoted the pots wherein the incenſe was burnt: hence we read of *plena acerra*, a full acerra.

ACERRA, in geography, a city of the K. of Naples in the province of Lavoro, about eight miles N. of Naples. It is a biſhop's ſee.

ACETABULUM, in antiquity, a kind of plate wherein ſauce was ſerved to table, and not unlike our ſalts or vinegar cruets.

Acetabulum was alſo a Roman meaſure, uſed as well for dry things as liquids; and equal to a cyathus and an half. See the articles MEASURE and CYATHUS.

ACETABULUM, in anatomy, a hollow cavity in the heads of certain bones ſerving to receive the protuberant heads of others, and thereby forming the articulation called enarthroſis.

The acetabulum is lined with a cartilage, the circular margin of which is called *ſupercilium*.

ACETABULUM, in botany, a genus of ſea-plants, the leaves of which are ſhaped like a baſon. See plate V. fig. 4.

Some will have the acetabulum to be of animal origin, and produced by ſea inſects.

ACETARY, a term uſed by Grew for a certain part in the ſtructure of ſome fruits, ſo called on account of its ſourneſs.

ACETOSA, SORREL, in botany. See the article SORREL.

ACETOSE, or ACETOUS, an epithet uſed for ſuch things as partake ſomething of the nature of vinegar: hence we ſay, an acetous taſte, acetous quality, *&c.*

ACH, or ACHE, in medicine, denotes a ſevere pain in any part of the body.

Head-ACH, } See { HEAD-ACH.
Tooth-ACH, } See { TOOTH-ACH.

ACHAM, ACHAN, or ACHEM, in geography, a large city, which is the capital of a kingdom of the ſame name, in the iſland of Sumatra.

ACHANE, in perſian antiquity, a corn-meaſure equal to forty-five attic medimni. See the article MEDIMNUS.

ACHAT, in law-books, denotes a contract, or bargain, eſpecially in the way of purchaſe.

ACHATES, the *Agat*, in natural hiſtory. See the article AGAT.

ACHERNER, in aſtronomy, a ſtar of the firſt magnitude, in the ſouthern extremity

tremity of the conſtellation eridanus. See the article ERIDANUS.

ACHILLEA, in the linnæan ſyſtem of botany, a genus of the ſyngeneſia polygamia ſuperflua claſs of plants, the common calyx of which is ovated, and imbricated with oval acute connivent ſquamæ: the compound flower is radiated; the hermaphrodite florets are numerous and tubulous; the female florets are ligulated; and the proper hermaphrodite ones funnel-ſhaped: there is no pericarpium, and the ſeed is ſingle, oval, and naked.

ACHILLEA is alſo a name often given by the antients to the gum, called in the ſhops dragon's blood. See the article DRAGON'S BLOOD.

ACHILLEID, ACHILLEIS, in literary hiſtory, a celebrated poem of the epic kind, compoſed by Statius in honour of Achilles: It takes in only the infancy of that hero, the poet being prevented by death from deſcribing all his actions, as he intended to have done.

ACHILLES, an appellation, ſometimes given to the principal argument, made uſe of by each ſect of antient philoſophers, in defence of their ſyſtem. It has got this name, in alluſion to the ſtrength of Achilles.

Achilles is particularly uſed for Zeno's argument againſt motion, which conſiſted in making a compariſon between the ſwiftneſs of Achilles, and the ſlowneſs of a tortoiſe; from whence he inferred, that a ſlow body, if but ever ſo ſmall a diſtance before a ſwift one, could never be overtaken by it.

Tendon of ACHILLES. See the article TENDON.

ACHIOTTE, a drug brought from America, and uſed in dying, as well as in preparing chocolate.

It is the produce of a ſpecies of mitella, a tree which has no leaves, but inſtead thereof a kind of filaments like thoſe of ſaffron, only larger. Between theſe, are found ſmall grains of a vermillion-colour, about the ſize of pepper-corns: theſe the Indians bake in cakes to be ſent into Europe.

Achiotte, beſides the above-mentioned uſes, is eſteemed a powerful cordial, as well as a preſervative for the retention of urine.

ACHLIS, the ſame with machlis. See the article MACHLIS.

ACHLYS, in medicine, denotes a dimneſs of ſight, ariſing from a ſmall cloud, or ſcar, remaining after a ſuperficial ulcer of the cornea.

ACHOR, in medicine, a kind of running ulcer on the face, chiefly infeſting children, but ſometimes alſo grown perſons. A child's face is not unfrequently broken by theſe achores into a number of ſmall holes, which diſcharge a moderately viſcid humour. It is dangerous to repel or drive the humour inwards; a fever or epilepſy being often the conſequence.

ACHRAS, the WILD PEAR-TREE, in botany, a genus of plants, the characters of which are not perfectly known: the flower conſiſts of five erect petals, of a cordated ſhape; and the fruit is an oval berry divided into five cells. The fruit of the achras is more drying, aſtringent, and ſour, than common pears.

ACHRONICAL, ACHRONYCAL, or ACRONYCHAL, in aſtronomy. See the article ACRONYCHAL.

ACHYRANTHES, or ACHYRACANTHA, in botany, a genus of the *pentandria monogynia* claſs of plants, having no corolla; the calyx is a perianthium, compoſed of five lanceolated, acute, rigid, pungent, and permanent dry leaves; there is no pericarpium; the ſeed is ſingle, roundiſh, and compreſſed.

ACICULÆ, in natural hiſtory, certain ſmall ſpikes, or prickles, in form of needles, wherewith nature has armed ſeveral animals, as the hedge-hog, *echinus marinus, &c.*

ACID, in a general ſenſe, denotes ſuch things as affect the palate with a ſour, ſharp, and tart taſte.

This property of bodies is generally attributed to a particular claſs of ſalts, called acid ſalts; ſuppoſed to be ſolid ſpiculæ, ſharp-pointed at both ends. Their ſolidity is inferred from their diſſolving the hardeſt bodies, their ſharpneſs from their pungency on the tongue; and their being pointed at both ends, from their penetrating the hardeſt ſubſtances with eaſe.

The great characteriſtic of acid bodies, is, that they make a violent effervеſcence when mixed with alkaline ſubſtances, and turn a blue tincture of violets red; whereas alkaline ſubſtances, mixed with the ſame tincture, turn it green.

Acid and alkali have been conſidered by ſome chemiſts, as the two athletæ of nature, the great inſtruments whereby all things were effected; and the cauſe not only of natural, but præternatural things, as diſeaſes and cures.

This hypothefis, we chiefly owe to Tachenius, a German apothecary and chemift, and a follower of Helmont's fyftem; who publifhed two books, to fhew that all natural things are compofed of alkali and acid. The acid, which he held was generated in the air, from the fun, and contained in it the hidden feeds, or fouls of all things, affociated the alkali to itfelf; and from hence, as a paffive fubject, arofe the effe or forms of things. All this he pretended to prove by the authority of Hippocrates. He was followed by Swalve, and his doctrine has been fince defended by others; but combated and refuted by Bohnius, Boyle, Bertrand, Pitcairn, Hoffman, *&c.*

Some have pretended to mend the hypothefis of acid and alkali, by altering it into acid and vifcid; which they will have to be the caufes of all difeafes, and fluid alkali the inftrument of all cures. This doctrine is afferted by Bontekoe and Blanchard, but refuted by Hoffman. See the article ALKALI.

The chemifts call all fubftances acids which make an effervefcence with an alkali. However, this does not feem to be a true characteriftic of acids, becaufe fome acids will caufe an effervefcence, upon being mixed with acids of a different kind; and alkaline fubftances will do the fame with alkalies; and acids with bodies which are neither alkaline nor acid, but neutral.

Acids feem to be of the greateft ufe in the oeconomy of the world, becaufe they are fo univerfal. In the bowels of the earth we meet with them in almoft every mine and mineral; but principally in thofe prodigious rocks of falt, which are found in almoft every country, and which the induftry of a great many ages have not been able to exhauft. Such are thofe in the famous falt-mines in Poland, and our own in Chefhire, where vaft quantities are got every year, and exported. Not to mention the quantities of acids hourly difcharged from the bowels of the earth, in the falt which may be found, by a nice examination, in the waters of every fpring, the frefheft not excepted.

In the air the acid is univerfal, and that in every part of it.

It is remarkable that the acid abounds more in the air, when the winds blow from the eaft and north, and when the weather is ferene. This the learned Hoffman informs us is confirmed by the obfervations of thofe who are concerned in nitre-works, who remark, that, during thefe winds, their alkaline earth is impregnated with an acid. Now as thefe winds are remarkably cold, and as acid fpirits, particularly that of nitre, increafe the coldnefs of ice to a prodigious degree, there feems reafon to believe, that the aerial acid is more concerned in the production of cold in the air than is generally imagined. The analogy between acids and cold, and alcalies and heat is very remarkable. The principal acids are vinegar and its fpirits; the juices of lemons, oranges, forrel, citrons, *&c.* alfo the fpirits of nitre, alum, vitriol, fulphur, and fea-falt.

ACID *menftruums.* Vegetable acids will intimately diffolve many vegetable, mineral, and even metallic bodies: thus, horn, bone, fhell, and the flefh of animals, are thereby reduced into a tranfparent liquor. See the articles MENSTRUUM, DISSOLVENT, and SOLUTION.

They likewife act upon all the metals, except gold, filver, and quick-filver. Foffile acids are ftill more powerful, diffolving the hardeft and pureft metals, which the vegetable ones will not touch: thefe are fo ftrong, as generally to deftroy or prove poifonous to animals. Thus, if nitre be ground with an equal quantity of colcothar of vitriol, or burnt alum, and then diftilled in a ftrong fire, it will afford a good fpirit of nitre, called by the refiners *aqua fortis*, which diffolves filver into extremely bitter, and cauftic cryftals. Spirit of fea-falt is a folvent for gold, which no other acid in nature will touch. See AQUA-FORTIS and AQUA-REGIA.

Chemifts obferve, that the ftrongeft acid menftruum, by diffolving its proper fubject, is changed into an infipid, unactive matter, no longer retaining the diffolving power it had before. Hence, it is not improbable, that thefe acids are generated and deftroyed: for no fpirit of nitre hath ever been found native, but is always produced from nitre already formed. Therefore thefe acids in diffolving bodies, concrete therewith, and are changed into new fubftances.

General properties of ACIDS. All acids agree, 1. In uniting with alkaline fubftances, making effervefcences with them, and producing new kinds of falts. 2. They alfo agree, in combining with chalk, coral, crabs-eyes, pearl, fhells, horn, bone, quick-lime, iron, copper, *&c.* all which are diffolved quicker or flower by every acid. Now thefe folutions, except the metallic ones, lofe all the acrimony of the diffolving acid; thus, for inftance, if fpirit

ſpirit of nitre be perfectly ſaturated with crabs eyes, this ſolution will prove a limpid, and almoſt inſipid liquor; and when diluted with fair water filtered and kept for ſome time in a gentle heat, it might paſs for pure water; but upon adding fixed alkali thereto, the crabs eyes before diſſolved will ſoon fall to the bottom, and ſhew that the ſolution was not pure water. Hence, therefore, we may eaſily be impoſed upon in the judgment we form of water by taking that for pure element, which contains numerous diſſolved and diſſolving particles. 3. Acids alſo agree in not only concreting with the ſubjects they diſſolve, but likewiſe in thereby loſing their diſſolving power. 4. It is alſo a property of all acids, to change the colour of vegetable juices into red, as we ſee in the juice of violets, roſes, turnſol, &c. 5. They all agree likewiſe in this, that they do not ſo much change the bodies they diſſolve, as they are changed by them: thus, vinegar remains no longer vinegar in the lead it has diſſolved, nor can be ſeparated from it again; whereas the lead may be again recovered, and ſo in other inſtances. 6. All acids may be diluted with water, and united with ſpirits and oils: thus, ſpirit of nitre unites with alcohol, though not without conceiving great heat, diſcharging red fumes, and making a ſtrong and almoſt fiery efferveſcence. The ſame ſpirit of nitre, upon uniting with oils, generally raiſes a violent heat, and ſometimes a motion productive of fire and flame. By mixing acids with oils, a bituminous, pitchy, or ſulphureous matter is commonly produced.

Their differences. Acids differ conſiderably from one another. 1. In regard to ſtrength, or the quantity of true acid with reſpect to the water they contain: thus, according to Homberg, an ounce of the beſt vinegar holds but 18 grains of true acid, the reſt being water; an ounce of ſpirit of ſalt, 73 grains of true acid; an ounce of ſpirit of nitre, 2 drams and 23 grains of true acid; and an ounce of oil of vitriol, 4 drams and 65 grains. 2. In regard to their ſolvent power. Thus, ſpirit of nitre ſcarce touches gold, with a boiling heat, or at moſt renders it black; but preſently diſſolves ſilver: whilſt *aqua regia* has the contrary effect. 3. In being differently affected by the bodies they diſſolve: thus ſpirit of vinegar, by diſſolving lead, becomes thick and unctuous; which is not the caſe with ſpirit of nitre. 4. One and the ſame acid is variouſly changed by acting upon different bodies: thus ſpirit of vinegar may be recovered after diſſolving lead, but is irretrievably loſt by diſſolving iron.

Inflammability and exploſive power of Acids. Not only are pure acids readily ſet on fire, and even their minute particles diſperſed in the interſtices of other bodies; but, what is more remarkable, if the acid ſpirit of nitre be mixed with an equal quantity of any of the aromatic oils, as that of cloves, ſaſſafras, turpentine, &c. it inſtantly burſts into a lucid flame with an exceſſive ebullition and exploſion.

Acids, in medicine. Not long ago, it was faſhionable among phyſicians to explain the nature of diſeaſes by the doctrine of acids and alkalies; a cuſtom, which, however fallen into diſrepute, is ſtill followed by ſome, and that with reaſon in regard to particular diſorders. Thus, the heart-burn, chloroſis, and other ſtomachic diſorders may be accounted for from a prevailing acid humour, which is corrected by an animal diet, and the uſe of ſuch vegetables as contain an aromatic oil. Abſorbents, volatile-ſalts, and broths prepared from the fleſh of young healthy animals, are likewiſe recommended. See Cardialgia and Chloroſis.

Acids, in the materia medica, denote ſuch medicines as are poſſeſſed of an acid quality; ſuch are vinegar, ſpirit of vitriol, &c.

Theſe being powerful antiſeptics, are eſteemed good in all putrid and malignant diſeaſes, and by their cooling virtue are no leſs efficacious in inflammatory and feveriſh caſes. However, great care ought to be taken not to adminiſter them in ſuch large quantities, as to corrode the bowels, or coagulate the blood.

Acids are alſo commended in the plague, and as ſtyptics. Thus, vinegar not only ſerves to ſtop hæmorrhages, but being ſprinkled upon a red hot tile or iron, corrects the putrefaction of the air. See the article Plague, &c.

ACIDITY, *aciditas*, that quality in bodies which renders them acid. See Acid.

ACIDULÆ, in natural hiſtory and medicine, a term uſed for the cold mineral waters, or ſuch as are impregnated with ſome acid mineral, as alum, vitriol, nitre, &c. See the article Mineral Water. This opinion took its riſe, no doubt, from the taſte of theſe waters, which is

ſharp,

ſharp, briſk, and pungent, whilſt they are freſh. The ſuppoſition too, that there is an univerſal acid contained in the earth, ſerves to eſtabliſh it.

ACIDULATED, among phyſicians, an appellation given to ſuch medicines, as have been mixed with ſome acid. See the article ACID.

ACINACES, in antiquity, a kind of cutlas, or ſcimetar, in uſe among the Perſians.

ACINI, among botaniſts. See ACINUS.

ACINIFORMIS *tunica*, in anatomy, the ſame with uvea. See the article UVEA.

ACINUS, in botany, a name given to grapes or berries growing in cluſters, in oppoſition to baccæ, or ſuch berries as grow ſingle.

ACKNOWLEDGEMENT, in a general ſenſe, is the owning or confeſſing ſomething; but, more particularly denotes the reward of ſome ſervice, or the grateful requital of a favour received.

ACKNOWLEDGEMENT-*money*, a certain ſum paid by tenants in ſeveral parts of England, on the death of their land-lords, as an acknowledgement of their new lords.

ACLIDES, in roman antiquity, a kind of miſſive weapon, with a thong fixed to it, whereby it might be drawn back again. Moſt authors deſcribe the aclides, as a ſort of dart or javelin; but Scaliger makes it roundiſh, or globular, with a wooden ſtem to poiſe it by.

ACME, in a general ſenſe, denotes the height, point, or top of any thing. Among phyſicians, it is uſed for the higheſt pitch to which a diſtemper riſes. It alſo denotes the prime or beſt part of a thing.

ACOEMETI, ἀκοίμηλοι, in church hiſtory, a kind of antient monks, who performed divine worſhip night and day in their churches. The religious of the holy ſacrament among the papiſts, are ſtill acoemeti.

ACOLUTHI, or ACOLYTHI, in church hiſtory, denotes candidates for the miniſtry, ſo called from their continually attending the biſhop.

ACOLUTHI is alſo uſed for the body-guards, who attended the emperors of Conſtantinople.

ACOLUTHI, ἀκόλυθοι, is alſo an appellation given to the ſtoics, on account of their ſteady adherence to what they had once reſolved.

ACOMAC, a county of Virginia, being a kind of peninſula, formed by the Atlantic ocean, and the bay of Cheſapeack.

ACONE, in natural hiſtory, a kind of whetſtone, otherwiſe called coticula. See the article COTICULA.

ACONITE, *aconitum*, in botany, the name of a genus of plants, called in engliſh wolfſbane, or monkſhood. This genus, according to the Linnæan ſyſtem of botany, is of the polyandria trigynia claſs, having no calyx. Its flower is of the polypetalous, anomalous kind; being compoſed of five irregular leaves, reſembling in ſome meaſure a man's head with a helmet or hood on it. The upper petal repreſents the hood or helmet; the two lower ones ſtand for that part which covers the lower jaw; and the two wings ſeem adapted for covering the temples. From the center of the flower, there ariſe two piſtils, reſembling feet, and received into the hollow of the upper petal, or hood; as is alſo another piſtil, which finally becomes a fruit, compoſed of ſeveral membranaceous vaginæ collected into a head, and uſually containing angular and wrinkled ſeeds. See plate V. fig. 5.

All the ſpecies of aconite are extremely acrimonious, thereby occaſioning mortal convulſions, or inflammations that end in a mortification.

ACONITUM, ACONITE, in botany. See the article ACONITE.

ACONTIAS, in zoology, a ſpecies of ſerpent, otherwiſe called *jaculum*, or the dart-ſnake, from its vibrating its body in the manner of a dart. It is about nine or ten inches long, and of the thickneſs of a man's little finger. On the back it is of a milky grey colour, variegated with ſmall black ſpots, ſurrounded with a white circle, like ſo many eyes. The neck is wholly black: and from it there run two milk-white ſtreaks along the back to the tail. The belly is perfectly white. It is found in Egypt, and in the iſlands of the Mediterranean.

ACONTIAS is alſo uſed by naturaliſts for a kind of comet, or rather meteor, with a roundiſh or oblong head, and a long ſlender tail reſembling a javelin; from whence it takes its name.

ACONTIUM, ἀκόντιον, in grecian antiquity, a kind of dart or javelin, reſembling the roman pilum.

ACORN, the fruit of the oak. See the article OAK.

Acorns are ſaid to have been the primitive

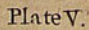


Fig. 1. ACARNAN.

Fig. 2. ACARUS.

Fig. 3. CCELERATION.

Fig. 4. ACETABULUM.

Fig. 5. ACONITE, or *WOLFS-BANE.*

Fig. 6. ACTINIA, aked Sea Insect with numerous Rays.

Species 1. *Species 2.*

T. Jefferys sculp.



tive food of mankind. They are aſtringent, and therefore eſteemed good in fluxes. However, they are principally uſed at preſent, for fattening of hogs, poultry, &c.

ACORUS, *the ſweet flag*, in botany, a genus of the hexandria monogynia claſs of plants, the calyx of which conſiſts of a very ſimple cylindric ſpadix, covered with floſcules; the corolla conſiſts of ſix hollow, lax petals, broadeſt at top, and, as it were, truncated; the fruit is a ſhort triangular capſule, obtuſely acuminated at each end, and contains three cells: the ſeeds are of an oblong and oval figure. The root of this plant is ſaid to be a diuretic and attenuant, and is recommended in obſtructions of the viſcera: it is at preſent, however, uſed as a cordial, ſtomachic and carminative; for opening obſtructions of the ſpleen and uterus, and promoting the menſes.

ACOUSMATICI, *ακουσματικοι*, in grecian antiquity, ſuch diſciples of Pythagoras, as had not finiſhed their five years probation. See PYTHAGOREANS.

The acouſmatici were inſtructed by bare poſitive precepts and rules, without reaſons or demonſtrations; theſe precepts they called acouſmata, which were divided into three kinds. The firſt, ſuch as aſſerted what ſomething is; *e. gr.* what is the ſun, the moon, the tetractys, or the like. The ſecond, ſuch as told what is moſt ſuch a thing; *e. gr.* what is moſt juſt? to ſacrifice: what is the moſt powerful? reaſon: what is the trueſt? that men are wicked. The third preſcribed what is to be done, and what not; *e. gr.* that we ought to beget children; that we are to put off the right ſhoe firſt: that we ought not to go in the common road, &c. Such were the pythagorean acouſmata; and thoſe among his diſciples who retained the greateſt fund of theſe, were eſteemed the wiſeſt men.

Some have denied the appellation of pythagoreans to be due to the acouſmatici, in regard many of theſe had their learning not immediately from Pythagoras, but from Hippaſus, who, according to ſome, was of Crotona, but according to others, of Metapontium.

ACOUSTICS, *ακουστικα*, denote the ſcience of hearing, or of ſounds in general, otherwiſe called phonics. See PHONICS.

ACOUSTICS are alſo uſed, by phyſicians, for ſuch medicines as are good in caſes of deafneſs. See the article DEAFNESS.

ACOUSTIC *duct*, in anatomy, a name ſometimes given to the external paſſage of the ear, more uſually called meatus auditorius. See the article MEATUS.

ACOUSTIC *inſtrument*, one contrived to aſſiſt hearing. It is faſhioned in the manner of a horn, with a perforation in the ſmaller end, which is fitted to be put into the ear.

ACOUSTIC *nerves*, the ſame with auditory nerves. See AUDITORY NERVES.

ACQUAPENDENTE, a town and biſhop's ſee of Italy, about forty-ſix miles north of Rome. E. longitude 12° 40′. N. latitude 42° 40′.

ACQUEST, or ACQUIST, in law, denotes goods not deſcended by inheritance, but acquired by purchaſe or donation.

Acqueſt is alſo popularly uſed for conqueſt, or lands acquired by the ſword.

ACQUI, a town of Italy in the dutchy of Montferrat. It is a biſhop's ſee, and ſituated upon the river Bormio. E. longitude 8° 40′ N. latitude 44° 45′.

ACQUIETANDIS *plegiis*, in law, a writ which lies for a ſurety againſt a creditor, who refuſes to acquit him after the debt is paid.

ACQUIETARE, in old law books, ſignifies to diſcharge or pay the debts of a perſon deceaſed, as the heir to thoſe of his father.

ACQUISITION, in a general ſenſe, denotes the obtaining or procuring ſomething. Among lawyers, it is uſed for the right or title to the enjoyment and property of an eſtate got by purchaſe.

Acquiſition is alſo uſed in a ſynonymous ſenſe with acqueſt. See ACQUEST.

ACQUITTAL, in law, is a deliverance or ſetting free from the ſuſpicion of guilt; as one who is diſcharged of a felony, is ſaid to be acquitted thereof.

Acquittal is either in fact or in law; in fact, it is where a perſon, on a verdict of the jury, is found not guilty; in law it is when two perſons are indicted, one as a principal, &c. the other as acceſſary: here if the former be diſcharged the latter of conſequence is acquitted.

Acquittal is alſo uſed for a freedom from entries and moleſtations of a ſuperior lord, on account of ſervices iſſuing out of land.

ACQUITTANCE, a diſcharge in writing for a ſum of money, witneſſing that the party is paid the ſame.

A man is obliged to give an acquittance, on receiving money; and a ſervant's acquittance for money received for the uſe of his maſter, ſhall bind him, provided the ſervant uſed to receive his maſter's rents.

rents. An acquittance is a full diſcharge, and bars all actions, &c.

ACRA, a town of Africa, on the coaſt of Guinea, where the Britiſh have a fort and factory: W. longitude 2′. and N. latitude 5°.

ACRASIA, among phyſicians, a term ſometimes uſed for the predominancy of one quality above another; and that as well in artificial mixtures, as in the humours of the human body.

ACRE, a meaſure of land containing four ſquare roods, or one hundred and ſixty ſquare poles. See MEASURE.

The *arpent* or french acre, is equal to 1¼ of the engliſh acre. That of Straſburg is only about one half of the engliſh acre.

The ſcotch acre is to the engliſh acre by ſtatute, as 100,000 to 78,694.

We have computations of the number of acres contained in ſeveral countries: thus, England is ſaid to contain 39 millions and upwards; and the united provinces about 4 millions and one third.

ACRE-*tax*, a tax levied upon lands, at a certain rate by the acre, otherwiſe called acre-ſhot.

ACREME, in old law books, is uſed for a portion of land, containing ten acres.

ACRID, an appellation given to ſuch things as are of a ſharp, or pungent taſte. Antient naturaliſts diſtinguiſhed two kinds of acrid taſtes; one proceeding from hot and dry, as in pepper; the other from hot and moiſt, as in garlic.

According to Grew, acrid is a taſte compounded of pungency and heat.

Acrid bodies cauſe thirſt, drineſs, heat, inflammation, &c.

They likewiſe quicken the motion of the fluids, corrode the ſolids, &c. and therefore ought to be taken with great caution.

ACRIDOPHAGI, ακριδοφαγοι, in antient geography, a fabulous nation of Ethiopia, ſaid to have lived on locuſts; from ακρις, a locuſt, and φαγω, I eat.

ACRIMONY, that quality in things which renders them acrid. See ACRID.

The acrimony of the humours of the human body may be owing either to ſtagnation, or to too great an agitation.

ACROAMATIC in the ariſtotelian ſchools, the ſame with acroatic. See ACROATIC.

ACROAMATIC is alſo uſed, in a more general ſenſe, for any thing that is ſublime, or abſtruſe: thus, we read of an acroamatic philoſophy, theology, &c.

ACROAMATICI, an appellation given to ſuch of Ariſtotle's diſciples as were inſtructed in his acroamatic, or ſublime philoſophy.

ACROATIC, in the ariſtotelian ſchools, a denomination given to ſuch lectures as were calculated only for the intimate friends and diſciples of that philoſopher, being chiefly employed in demonſtrating ſome ſpeculative, or abſtruſe part of philoſophy.

The acroatic lectures ſtood contradiſtinguiſhed from the exoteric ones, which were adapted to a common auditory.

ACROBATICA, or ACROBATICUM, in grecian antiquity, an engine on which people were raiſed aloft, that they might have the better proſpect.

It was of the ſame nature with the ſcanſorium of the latins. See SCANSORIUM.

ACROCHIRISMUS, ακροχειρισμος, in grecian antiquity, a kind of gymnaſtic exerciſe performed with the fiſts, without cloſing at all.

Some make this a diſtinct exerciſe from wreſtling, and ſuppoſe it to have given the denomination acrochiriſtæ, to a peculiar ſet of athletæ who profeſſed it. Others with more probability conſider it as only a ſpecies, or branch of wreſtling; ſome will have it to have been properly only a prelude to a wreſtling bout, wherewith the athletæ began to try each other's ſtrength, and bring their arms into play. This exerciſe made part of the pancratium. Pauſanias ſpeaks of a famous pancratiaſt, named Soſtrates, who got the ſirname Acrocherſites, or Acrochiriſtes, from his having overcome all his antagoniſts at the Acrochiriſm. — It appears to have been in uſe in the age of Hippocrates, who aſcribes to it a virtue of extenuating the reſt of the body, and making the arms fleſhy. See the article PANCRATIUM.

ACROCHORDON, among antient phyſicians, a painful kind of wart, very prominent and pendulous. See WART.

Theſe are alſo called *penſiles verrucæ*, or hanging warts, and ſtand diſtinguiſhed from *ſeſſiles Verrucæ*, or *myrmecia*. See the article MYRMECIA.

Others deſcribe the acrochordon, as a harder, rougher ſort of wart, growing under the cutis, very callous, and uſually of the ſame colour with the ſkin; ſmall at bottom and bigger upwards, but rarely exceeding the ſize of a bean.

ACROMION, or ACROMIUM, in anatomy, the name of the upper part of the ſcapula, or ſhoulder-blade. See the article SCAPULA.

ACROMONOGRAMMATICUM, a kind of poem, wherein every verſe begins

gins with the same letter with which the preceding verse terminates.

ACRONYCHAL, or ACHRONYCAL, in astronomy, an appellation given to the rising of a star above the horizon, at sunset; or to its setting, when the sun rises. Acronychal is one of the three poetical risings of a star; the other two being called cosmical and helical. See the articles COSMICAL and HELICAL.

This term is also applied to the superior planets Saturn, Jupiter, and Mars, when they are come to the meridian of midnight.

ACROSPIRE, the popular term for what among botanists is called the germ, plume, or plumule.

ACROSPIRED, in malt-making, a term used for such grains of barley as shoot or sprout out at the blade-end, as well as at the root-end. See the article MALT.

To allow barley to acrospire, exhausts the substance of the grain too much, and consequently spoils the future malt.

ACROSTIC, in poetry, a kind of poetical composition disposed in such a manner, that the initial letters of the verses make some person's name, title, motto, *&c.*

The acrostic is a species of false wit, which derives its origin from the times of monkish ignorance.

ACROSTICUM, in botany, the name of a genus of the cryptogamia class of plants, and of that order called the filices, the fructifications of which are collected into clusters, and cover the whole under surface of the leaves.

ACROSTOLIUM, ακροϛολιον, in the naval architecture of the antients, the extreme part of the ornament used on the prows of their ships. This was of various forms; sometimes in the shape of a buckler, helmet, animal, *&c.* but more frequently circular, or spiral.

It was usual to tear the acrostolia from the prows of vanquished ships, as a token of victory.

Authors, not unfrequently, confound the acrostolia with the decorations of the poop or stern, as also with the rostra; from which, however, they are very distinct. See ROSTRUM and APLUSTRE.

ACROTERIA, in architecture, small pedestals upon which globes, vases, or statues stand at the ends or middle of pediments, or frontispieces. The height of those at the extremes, should be only half that of the tympanum; whereas that in the middle ought to be one eighth part more. See the articles PEDIMENT and TYMPANUM.

This term likewise denotes the figures placed as ornaments, or crownings, on the tops of churches; and sometimes those sharp pinnacles, standing in ranges about flat buildings, with rails and ballustres.

ACROTERIA, among antient physicians, a term used to denote the larger extremities of the body, as the head, hands, and feet.

Acroteria is also used for the tips of the fingers, and sometimes for the eminences of the bones.

ACROTERIASM, ακρωτηριασμος, in antient surgery, the amputation, or cutting off the extremities of the body. See the article AMPUTATION.

ACROTHYMIA, in surgery, a large tumour, usually rising in the shape of a wart, tho' sometimes depressed and flat.

ACT, *actus*, in a general sense, denotes the exertion, or effectual application of some power or faculty.

Act is distinguished from power, as the effect from the cause, or as a thing produced, from that which produces it.

Philosophers and divines mention various kinds of acts, as an infinite act, or one which requires infinite power to produce it; such is creation: a finite act, or one which may be effected by a limited power; such are all human actions: a transient act, or one exercised on something foreign to the agent; such is heating: an immanent act, or one which is effected within the agent himself; such is the act of thinking.

ACT, among logicians, more particularly denotes an operation of the human mind; in which sense comprehending, judging, willing, *&c.* are called acts. See the article COMPREHENSION, *&c.*

ACT, among lawyers, is used for an instrument or deed in writing, serving to prove the truth of some bargain or transaction. Thus, records, certificates, *&c.* are called acts.

ACT is also used for the final resolution, or decree of an assembly, senate, council, *&c.* See the article ASSEMBLY, *&c.*

Acts of parliament are called statutes; acts of the royal society, transactions; those of the french academy of sciences, memoirs; those of the academy of sciences at Petersburg, commentaries; those of Leipsic, *acta eruditorum*; the decrees of the lords of session, at Edinburgh, *acta sederunt*, *&c.*

ACT *of faith*, *auto de fe*, in the church of Rome, a kind of jail-delivery, for burning or setting at liberty the prisoners of the

the inquisition, or heretics, as they are called.

An act of faith is the utmost exertion of priestly tyranny, and a reproach to humanity itself; the tragical part of which, is thus described by those who have seen it. The prisoners being cloathed in proper habits, are carried, in a solemn procession, to the place of execution; where there are as many stakes set up as there are prisoners to be burnt, with a quantity of dry furze about them. Those who make profession of dying in the communion of the church of Rome, are first strangled, and then burnt to ashes; but those who persist in their heresy, are chained to stakes about four feet high, a board being fixed on the top of the stake for that purpose. On this the jesuits, after repeated exhortations to be reconciled to the church, deliver them over to the devil, who, they tell them, is standing at their elbow to receive their souls, and carry them with him into the flames of hell; which instance of catholic charity is followed by loud shouts from the deluded mob, crying out, *let the dogs beards be singed*: this they do by holding a bush of flaming furze, fastened to a pole, to their faces, till they are burnt to a coal. At last, fire is set to the furze at the foot of the stake; but the unhappy sufferers are placed so high, that the flame seldom reaches higher than the seat on which they sit, so that they seem rather roasted than burnt.

Such is the wretched death these poor people suffer, and that for no other reason, for crime it certainly is not, than that they cannot swallow all the absurdities of popery! How shocking is the practice! How detestable, beyond expression, the authors and promoters of it! From such a religion, and such diabolical maxims, will not every protestant most fervently pray to God to deliver us?

As to those who escape the flames, some are imprisoned, and others obliged to do penance during their lives.

ACT *of Grace*. See the article GRACE.

ACTS *of the Apostles*, a canonical book of the New Testament, which contains a great part of the lives of St. Peter and St. Paul, beginning at the ascension of our Saviour, and continued down to St. Paul's arrival at Rome, after his appeal to Cæsar; comprehending in all about thirty years. St. Luke has been generally taken for the author of this book; and his principal design in writing it was to obviate the false acts and false histories which began to be dispersed up and down the world. The exact time of his writing it is not known, but it must have been at least two years after St. Paul's arrival at Rome, because it informs us that St. Paul dwelt two whole years in his own hired house; perhaps he wrote it, while he remained with St. Paul, during the time of his imprisonment.

ACTS, in dramatic poetry, are certain divisions, or parts of a play, designed to give some respite both to the actors and spectators. See the article DRAMA.

The acts are always five, in regular and finished pieces; a rule not unknown to the Romans, as appears from Horace,

Neu brevior quinto, neu sit productior, actu.

According to some, the first act, besides introducing upon the stage the principal characters of the play, ought to propose the argument or subject of it: the second, to bring this upon the carpet by carrying the fable into execution: the third, to raise obstacles and difficulties: the fourth, to find remedies for these, or to raise new ones in the attempt: the fifth concludes the piece, by introducing some incident to unravel the whole affair.

ACTÆA, in botany, the name whereby Linnæus calls the christophoriana of Tournefort. See CHRISTOPHORIANA.

ACTIAN *games, ludi actiaci*, in roman antiquity, those instituted in commemoration of the victory at Actium.

Some will have it, that they were celebrated every third year; but Strabo, whose opinion is now generally followed, tells us, that they returned only every fifth year, and were sacred to Apollo, thence called *actius*: hence actian years were an æra, or series of years, commencing from the battle of Actium, and otherwise called the æra of Augustus.

ACTINIA, in the history of insects, a genus of sea-animals, of the order of the gymnarthria, naturally of a cylindric shape, but variable figure; the tentacula are very numerous, and are ranged in several series about the mouth, which is placed at one of the extremities of the body; these are in a continual vibratory motion, and by that means draw small animals into its mouth for food. The whole animal is equally thick in all parts, and

and about half an inch long; its tail is divided into three parts; or terminated, as it were, by three points: it is of a pale flesh colour, except the tentacula, which have a beautiful variety of colours, red, yellow, blue, and many others: it lodges itself in little cavities of rocks, and of the larger sea-plants of the stony kind, and is found on the coasts of the american islands.

There is a variety of species, differing from each other in figure, colour, &c. two whereof are represented plate V. fig. 6. n° 1 and 2.

ACTION, *actio*, in a general sense, signifies much the same with act. See ACT. Schoolmen make several more subtile than useful distinctions of action, into univocal and equivocal, immanent and transient, &c. See UNIVOCAL, &c.

ACTION, in mechanics and physics, is the pressure or percussion of one body against another.

It is one of the laws of nature, that action and re-action are equal, that is, the resistance of the body moved is always equal to the force communicated to it; or, which is the same thing, the moving body loses as much of its force, as it communicates to the body moved. See the article RE-ACTION.

If a body be urged by equal and contrary actions or pressures, it will remain at rest. But if one of these pressures be greater than its opposite, motion will ensue towards the parts least pressed.

It is to be observed, that the actions of bodies on each other, in a space that is carried uniformly forward, are the same as if the space were at rest; and any powers or motions that act upon all bodies, so as to produce equal velocities in them in the same, or in parallel right lines, have no effect on their mutual actions, or relative motions. Thus the motion of bodies aboard a ship, that is carried steadily and uniformly forward, are performed in the same manner as if the ship was at rest. The motion of the earth round its axis has no effect on the actions of bodies and agents at its surface, but so far as it is not uniform and rectilineal. In general, the actions of bodies upon each other depend not on their *absolute*, but *relative* motion. See the article MOTION.

Quantity of ACTION is used to denote the product of the weight of a body into its velocity, and into the space gone through; in proportion to which body, the action is always greater or less.

When a body is transported from one place to another, the action is the greater, in proportion to the mass, to the velocity, or rapidity of the motion, and to the space through which the body is carried.

Mons. de Maupertuis lays it down as a general principle, that "whenever any "change happens in nature, the quan- "tity of action necessary to produce "this change is always the least possible." And this, he says, is a law indicating the highest wisdom.

From this general principle, and the common rule for finding a minimum by fluxions, he deduces the known laws of percussion, for hard and elastic bodies, and even the laws of rest, as he calls them; that is, of the equilibrium, or equipollency of pressures.

This ingenious author seems to think, that the laws of motion, thus deduced, afford a stronger proof for the existence of God, or of a first intelligent cause, than the other arguments commonly alledged, and deduced from the order of nature. But we apprehend, that few metaphysicians will be of his opinion. The proof of a God from the order of nature seems to depend on two principles. 1. That there is an order in nature. 2. That this order is contingent. For if this order was not contingent, but absolutely necessary, as Spinosa, and other atheists pretend, it seems that no sufficient reason, from the order of nature, could be assigned for the existence of a first intelligent cause. Now, Mons. de Maupertuis not having established the contingency of his principle of the minimum of action, his argument seems defective in this respect; not to mention others.

Mr. Euler has demonstrated, that in the trajectories described by bodies urged by central forces, the velocity, multiplied by the element of the curve, is always a minimum. Mons. Maupertuis looks on this as an application of his principle, to the motion of the planets.

ACTION in ethics, something done by a free or moral agent, capable of distinguishing good from evil.

The essence of a moral action consists in being done knowingly and voluntarily; that is, the agent must not only be able to distinguish whether it be good or bad in itself; but he must likewise be entirely free from compulsion of any kind,

and at full liberty to follow the dictates of his own understanding. Hence the actions of idiots, slaves, &c. cannot be called moral. Hence also appears the absurdity of fatalism, which undermines the very foundation of morality.

ACTION, in rhetoric, may be defined, the accommodation of the voice, but more especially the gesture of an orator, to the subject he is upon.

It is chiefly directed to the passions of the audience, over whom it has an absolute sway, in a manner commanding their assent, and exciting in their breasts such emotions as the orator wants to raise.

The surprising and almost incredible power of action, has been known at all times. Cicero tells us, "that it "does not so much matter what an orator "says, as how he says it." Horace, in his art of poetry, is no less explicit in setting forth its vast influence on mankind.

With those who laugh, our social joy
appears;
With those who mourn, we sympathize in tears,
If you would have me weep, begin
the strain,
Then I shall feel your sorrows; feel
your pain.

After all, the utility and even morality of action is controverted. Is it just, say some, to force the assent of mankind by addressing their passions, without first convincing their reason? In such a case, is it not to be feared that the orator will warp them to the side he himself favours? That he will make this foible of mankind subservient to his own views? &c. On the other hand, is it not evident, that mankind stand in need of such a powerful spring to set them on action? If so, where can be the injustice in making use of it, especially in conjunction with reason and solid argument?

ACTION, in poetry, denotes much the same with the fable, or subject of an epic or dramatic poem; only that the former may be real, whereas the latter is always feigned.

It is necessary to the perfection of an action, that it be but one, that it be entire, that it be important or affecting, and that it have a suitable duration, without being interrupted. It is no breach, however, of the unity, or integrity of the principal action, that there are subordinate ones, serving to obstruct the hero's measures.

In dramatic poetry, the principal action, together with these secondary ones, are divided into five acts. See the article ACT.

ACTION, in a theatrical sense, is nearly the same with action among orators; only the actor adapts his action to an assumed character, whereas the orator is supposed to be in reality what his action expresses, whether joyful, grieved, &c. The perfection of theatrical action consists in imitating nature, or expressing, in a lively manner, the behaviour of a man of the assumed character and circumstances.

ACTION, in painting and sculpture, denotes the posture of a statue or picture, serving to express some passion, &c.

ACTION, in the military art, is an engagement between two armies, or between different bodies of troops belonging thereto. This term is likewise used to signify some memorable act done by an officer or commander of a body of troops.

ACTION *of the mouth*, in the manege, signifies a horse's champing upon the bit of the bridle, thereby emiting a ropy foam; which is looked upon as a sign of health, vigour, and mettle.

ACTION, in law, denotes either the right of demanding, in a legal manner, what is any man's due: or the process brought for recovering the same.

Actions are either criminal or civil.

Criminal actions are to have judgment of death, as appeals of death, robbery, &c. or only judgment for damage to the injured party, fine to the king, and imprisonment.

Under the head of criminal actions may likewise be ranked penal actions, which lie for some penalty or punishment on the party sued, whether it be corporal or pecuniary.

Also actions upon the statute, brought on breach of any statute, or act of parliament, by which an action is given that did not lie before; as where a person commits perjury to the prejudice of another, the injured party shall have an action upon the statute. And lastly, popular actions, so called, because any person may bring them on behalf of himself and the crown, by information, &c. for the breach of some penal statute.

Civil actions are divided into real, personal, and mixt.

Real action is that whereby a man claims a title, lands, tenements, &c. in fee, or for life, and this action is either possessory, or ancestral; possessory, where the lands

lands are a perſon's own poſſeſſion or ſeiſin; anceſtral, when they were of the poſſeſſion or ſeiſin of his anceſtors.

Perſonal action, is one brought by one man againſt another, upon any contract for money or goods, or on account of treſpaſs, or other offence committed; and thereby, the debt, goods, chattels, *&c.* claimed.

Mixt action, one lying as well for the thing demanded as againſt the perſon who has it; and on which the thing is recovered with damages for the wrong ſuſtained; ſuch is an action of waſte, ſued againſt a tenant for life, the place waſted being recoverable, with treble damages for the wrong done.

All actions ſeem to be temporary. A real action may be preſcribed againſt, in five years after a fine levied, or recovery ſuffered. Writs of formedon for any title to lands in being, muſt be ſued out within twenty years. Actions of debt, account, detinue, trover and treſpaſs, are to be brought within ſix years; of aſſault and battery within four years; and of ſlander, within two years, after cauſe of action, and not afterwards. However, it ought to be obſerved, that the right of action in theſe caſes is ſaved to infants, feme coverts, and perſons in priſon or beyond ſea, *&c.* ſo as they commence their ſuits within the time limited after their imperfections are removed.

Actions may be brought againſt all perſons whatever, but thoſe who are attainted of high treaſon or felony, an outlawed or excommunicated perſon, *&c.* cannot bring any action till pardoned, abſolved, *&c.* A feme covert muſt ſue with her huſband, and infants by their guardians.

ACTION *upon the caſe*, a general action which lies for the redreſs of wrongs and injuries done without force, and which by law are not provided againſt.

This at preſent is the moſt frequent of all actions, being brought in all caſes where no certain form has been eſtabliſhed; and the reaſon why it is called an action upon the caſe, is becauſe the whole cauſe or caſe is ſet forth in the writ. It may be brought as well where there is another action, as where no other lies.

Action upon the caſe for words, is brought where a perſon is injured in his reputation; and for words which affect the life, office, trade, *&c.* or tend to the loſs of preferment in marriage, or otherwiſe; or to the diſinheritance or other damage of a perſon.

Prejudicial ACTION, otherwiſe called *preparatory*, one which ariſes from ſome doubt in the principal; as, where one ſues his younger brother for lands deſcended from the father, on which it is objected to him that he is a baſtard: Here this point of baſtardy is to be firſt tried or judged, before the principal cauſe can proceed.

ACTION *of a writ*, is when a perſon pleads ſome matter by which is ſhewn, that the plaintiff had no cauſe to have the writ brought; though, perhaps, he may have another writ for the ſame matter. It is hence called, a plea to the action of the writ, in contradiſtinction from a plea to the action.

ACTION, among phyſicians. The actions of the human body, are divided into the vital, animal, or natural ones.

Vital actions are thoſe, without which life could not be maintained: ſuch is the motion of the heart and lungs.

Under animal actions are comprehended the ſenſes, imagination, judgment, and voluntary motions, without which we could not live comfortably.

Laſtly, natural actions are thoſe which, though not ſo immediately neceſſary to life but that we may live ſome time at leaſt without them, yet are abſolutely neceſſary to our well-being: ſuch is digeſtion.

ACTION, in commerce, a term uſed abroad for a certain part or ſhare of a public company's capital ſtock. Thus, if a company has 400,000 livres capital ſtock: this may be divided into 400 actions, each conſiſting of 1000 livres. Hence, a man is ſaid to have two, four, *&c.* actions, according as he has the property of two, four, *&c.* thouſand livres, capital ſtock.

The transferring of actions, abroad, is performed much in the ſame manner as ſtocks are with us.

ACTIONARY, or ACTIONIST, in commerce, a term uſed among foreigners, for the proprietor of an action, or ſhare of a public company's ſtock.

ACTIVE, in a general ſenſe, denotes ſomething that communicates motion or action to another, in which ſenſe it ſtands oppoſed to paſſive. See PASSIVE.

Thus we ſay active cauſe, active principles, *&c.* The quantity of motion in the world, Sir Iſaac Newton ſhews, muſt be always

always decreasing, in virtue of the vis inertiæ, &c. so that there is a necessity for certain active principles to recruit it: such he takes the cause of gravity to be, and the cause of fermentation. Adding, that we see but little motion in the universe, except what is owing to those active principles.

ACTIVE *principles*, in chemistry, those which act of themselves, without any foreign assistance: such are mercury, sulphur, and salt, supposed to be; phlegm and earth being reckoned passive ones.

Some authors will have sulphur, or fire, to be the only active principle and source of all the motion in the world.

Others again, with what propriety we shall not take upon us to say, call oil, salt, and spirit active principles, only because their parts are better fitted for motion than those of earth or water.

ACTIVE, among grammarians, an appellation given to words expressing some action, as I write, I read, &c.

These are denominated verbs, or active verbs, from the latin *verbum*, a word. See the article VERB.

ACTIVITY, in a general sense, denotes that faculty or power, from whence things are denominated active. See ACTIVE.

Hence all that space, wherein any body extends its virtue or influence, is called the sphere of its activity.

ACTOR, in a general sense, signifies one who acts, or does some thing. See the articles ACT and ACTION.

ACTOR, in a theatrical sense, is a man who acts some part or character, in a play. See ACTION and THEATRE.

Actors were at first few in number, one or two persons often acting all the characters in a play. At present, however, their number is not limited; a circumstance which creates such a diversity as must greatly interest the spectators.

It is remarkable with what difference actors were treated among the antients. At Athens, they were held in such esteem, as to be sometimes pitched on to discharge embassies, and other negociations: whereas, at Rome, if a citizen became an actor, he thereby forfeited his freedom. Among the moderns, actors are best treated in England; the French having much the same opinion of them that the Romans had.

ACTRESS, a woman who performs, or acts, some character on the stage. See the article ACTOR, *supra*.

Actresses, or women actors, were unknown to the antients, among whom men always performed the part of women: and hence one reason for the use of masks among them.

Actresses are even said not to have been introduced on the English stage, till after the restoration of king Charles II. who has been charged with contributing to the corruption of our manners, by importing this usage from abroad. But this can be but partly true: the queen of James I. acted a part in a pastoral; and Pryn, in his Histriomastix, speaks of women actors in his time as whores; which was one occasion of the severe prosecution brought against him for that book.

ACTUAL, an appellation given to such things as exist truly and absolutely. Thus, philosophers speak of actual heat, cold, &c. in opposition to virtual or potential; divines, of actual grace, in opposition to that which is habitual. See the articles, HEAT, COLD, and GRACE.

ACTUAL *sin*, that which is committed by a person himself: it is opposed to original sin. See the article ORIGINAL.

ACTUARIÆ *naves*, in roman antiquity, a kind of ships designed chiefly for expedition.

ACTUARIUS, among the antients, an officer, or rather notary, appointed to write down the proceedings of a court.

Actuarii were also officers who kept the military accounts, and distributed the corn to the soldiers.

ACTUATE, a term signifying to stir up, or put in motion: thus, to actuate a person, is to prompt him to do something.

ACTUS, in antiquity, a measure of length containing one hundred and twenty roman feet. The square of the actus was just half of the roman acre or jugerum. See the article ACRE.

ACULEATE, or ACULEATED, an appellation given to any thing that has aculei, or prickles: thus fishes are divided into those with aculeated, and not aculeated fins. See the article FISH.

ACULEI, in natural histroy, a term used for the prickles found on some animals as well as plants; also for the stings of bees.

ACULER, in the manege, is said of a horse, when working upon volts, he does not go far enough forward, at every time of motion; so that his shoulders embrace or take in too little ground, and his croupe comes too near the center of the volt. Horses are naturally inclined

clined to this fault in making demi-volts. See the article VOLT.

ACUMEN, in the antient music, a sound produced by raising the voice to a high pitch.

ACUMINA, in antiquity, a kind of military omen, taken from the points or edges of spears, swords, *&c.*

ACUPUNCTURE, in the chinese and japanese surgery, a method of curing several disorders, by pricking the part affected with a needle.

This operation is performed with a gold or silver-needle, which they strike into the body with their hand, or with a hammer provided for that purpose. Not only the legs, arms, and the like parts, are pricked in this manner; but likewise the head and abdomen.

They have recourse to acupuncture in the head for head-achs, lethargies, epilepsies, convulsions, diseases of the eyes, *&c.* and in the abdomen for colics, dysenteries, want of appetite, surfeits, *&c.*

ACUS, in ichthyology, the name of two distinct genuses of fishes; the one called the acus of Aristotle, and the other the acus of Bellonius, or of Oppian.

Of the former kind, called in english, the needle-fish or tobacco-pipe fish, there are two species, the larger and smaller. The larger is about a cubit long, and not thicker than a man's finger. It has two very small fins at the gills, and another at the back. Its anus is nearly in the middle of the body. See plate VI. fig. 1.

Of the latter kind, called by us the gar-fish, there are also two species, one with scales, and the other not. The under jaw of this last is longer than the upper one, and both are thick set with sharp teeth. It has only one back-fin, and the tail is forked. See plate VI. fig. 2.

ACUTE, an appellation given to such things as terminate in a sharp point, or edge: thus, we say an acute angle, acute-angled triangle, *&c.* See the articles ANGLE and TRIANGLE.

ACUTE *accent*, in grammar. See the article ACCENT.

ACUTE-*angled cone*. See the article CONE.

ACUTE *diseases*, among physicians, those which suddenly rise to their highest pitch, and terminate in a few days.

In this sense the word stands opposed to chronical. Dr. Quincy thinks, an acute disease may be defined, that which is attended with an increased velocity of blood. Acute diseases are extremely dangerous, as not affording time to administer proper medicines.

ACUTE, in music, an epithet given to sharp or shrill sounds, in opposition to those called grave.

ACUTENESS, that property of things from whence they are denominated acute. See the article ACUTE.

The cause or principle of the acuteness of sounds, is resolved into the greater degree of tension of the sonorous body; by virtue of which, its parts vibrate more swiftly, or make a greater number of returns in the same time. But this is not the only principle, sounds being also more or less acute, according to the species of matter, and the less or greater quantity of it. Thus a silver body yields a more acute sound than a gold one: one solid foot, than two; a shorter string gives a more acute sound than one that is longer, of the same matter, diameter, and tension.

ACUTITION, or ACUITION, in a general sense, signifies the same with acuteness.

ACUTITION, in grammar, the pronouncing or marking a syllable with an acute accent. See ACCENT or ACUTE.

ACUTITION, among physicians, the sharpening or increasing the force of any medicine.

ACYROLOGIA, in philology, denotes an improper word, phrase, or expression: it differs a little from the catachresis. See the article CATACHRESIS.

AD, a latin preposition, expressing the relation of one thing to another.

It is frequently prefixed to other words: Thus,

AD *extra*, among school divines, a term applied to those operations of the deity, the effect whereof terminates without the divine essence, as creation, regeneration, *&c.*

The operations ad extra are opposed to those ad intra, or such as are confined within the divine essence.

AD *hominem*, among logicians, an argument drawn from the professed belief or principles of those with whom we argue.

AD *ludos*, in roman antiquity, a kind of punishment, whereby the criminals entertained the people, either by fighting with wild beasts, or with each other. Barbarous diversion!

AD *metalla*, in roman antiquity, the punishment of such criminals as were condemned to the mines, and therefore called metallici. A piece of excellent policy,

policy, thus to make the punishment of rogues doubly subservient to the good of the common wealth!

AD *valorem*, among the officers of the king's revenue, a term used for such duties, or customs, as are paid according to the value of the goods sworn to by the owner. Books imported from abroad formerly paid duties *ad valorem*; instead of which bound books now pay fourteen shillings per hundred weight, and the unbound ones seven. Stat. 9. Geo. I. c. 19.

ADAGE, a short sentence or proverb, containing some wise saying, or remarkable observation.

We have a collection of greek and roman adages by Erasmus.

ADAGIO, softly, leisurely, in music, a term used to denote the slowest of all times, the grave only excepted. See the articles TIME and GRAVE.

Sometimes it is repeated adagio adagio, to signify a still greater retardation of time.

ADAMANT, or *Adamas*. See the next article.

ADAMAS, the adamant or diamond. See the article DIAMOND.

ADAMAS, or *Adamant*, is sometimes also used for other things, as the spume or scoriæ of gold, the highest tempered iron, the magnet, &c. See the articles SCORIA, IRON, and MAGNET.

ADAMI *pomum*, in anatomy, a prominence in the fore part of the throat; so called from the idle notion, that a piece of the forbidden apple stuck in Adam's throat, and occasioned this tumour, which in reality is only the convex part of the first cartilage of the larynx.

ADAMIC *earth*, *terra adamica*, a name by which some call the common clay, supposed to be the adamah, or ruddy earth, of which the first man was formed.

ADAMITES, in church-history, a name sometimes used for the descendants of Adam and Seth, more usually called sethites. See the article SETHIANS.

Adamites is more particularly used, by ecclesiastical writers, for a sect of heretics who went naked; pretending that mankind were restored to the original state of innocence, wherein Adam was created. They were likewise accused of holding a community of women, and of lying with them in public. The protestants and papists mutually charge each other with having adamites among them.

Præ-ADAMITES. See PRE-ADAMITES.

ADAR, in hebrew chronology, the twelfth month of their ecclesiastical, and the sixth of their civil, year. It has only twenty-nine days, and answers to the latter end of our February and beginning of March.

ADARCE, in the materia medica of the antients, a kind of salt found concreted about reeds and other vegetables in form of incrustations.

It was applied externally in various cutaneous disorders, as a detergent and resolver; also for the teeth.

ADARCON, in jewish antiquity, a coin mentioned in the scriptures, usually of gold. Authors are not agreed about its value, some making it the same with the golden pieces called darics, others equal only to the attic drachm, and others twice as much.

ADARTICULATION, a term used by some physicians for what is more usually called arthrodia and diarthrosis.

ADDA, a considerable river of Italy, which taking its rise in the province of Bormio, traverses the lake di Como, and afterwards passing through the Milanese, falls into the Po, a little to the west of Cremona.

ADDEPHAGIA, in a general sense, signifies gluttony or voraciousness; in which sense, it is made to comprehend the bulimia, pica, malacia, &c.

Addephagia, in a more particular sense, is used for greediness in children, which makes them cram down new food before the old is well digested.

ADDER, in zoology, a name by which the viper is sometimes called. See VIPER.

Water-ADDER, in zoology, the english name of the natrix. See the article NATRIX.

ADDER-STUNG, is said of cattle when stung by adders, or bit by a hedge-hog or shrew. For this, some use an ointment made of dragon's blood, with a little barley-meal and the white of eggs.

ADDER's *tongue*, *ophioglossum*, in botany, a genus of the cryptogamia class of plants, and of that order called the filices, without any visible flower; the fruit is an oblong, double, or distichous capsule, divided by transverse articulations into a great number of cells, containing small seeds of an oval shape. See plate VI. fig. 3.

Adder's tongue is esteemed as a vulnerary, and prescribed either internally or externally. It is a spring plant, to be found only in April and May, and may easily be distinguished by its spike or tongue. The common people are extremely

tremely fond of it, giving the expreſſed juice internally for wounds, bruiſes, &c. or applying an ointment of it, made with lard or May-butter externally.

ADDEXTRATORES, among eccleſiaſtical writers, denote the pope's mitre-bearers; ſo called, according to Du-cange, on account of their walking at the pope's right hand, when he rides to viſit the churches.

ADDICE, or ADZE, a kind of crooked ax, fitted for cutting the hollow ſide of a board, &c.

ADDICTI, in roman antiquity, a kind of ſlaves who were reduced to that ſtate, by reaſon they could not ſatisfy ſome creditor; whoſe ſlaves they became, till they could pay or work out the debt.

ADDICTION, *addictio*, among the Romans, was the making over goods to another, whether in the way of ſale, or by ſentence of court: the goods ſo delivered were called *bona addicta*.

Debtors were ſometimes delivered over in the ſame manner, and thence called *ſervi addicti*. See the article ADDICTI.

ADDITAMENT, *additamentum*, a term uſed, by ſome phyſicians and chemiſts, for whatever new ingredients are added to a compoſition or menſtruum, to render it more efficacious.

ADDITION, in a general ſenſe, is the uniting or joining ſeveral things together: or, it denotes ſomething added to another.

ADDITION, in arithmetic, the firſt of the four fundamental rules of that art, whereby we find a ſum equal to ſeveral ſmaller ones.

The rule for addition of integers, is, to place all the numbers of a like kind under one another; that is, the units under units, tens under tens, hundreds under hundreds, &c. and ſingly to collect the ſums of each. To do this, we begin with the units, and if their ſum does not exceed 9, we ſet it down underneath; but if it exceeds 9, the exceſs only is to be ſet down; carrying one to the next row for every ten, and ſo of the other rows.

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1657
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For example, if the ſums 675 and 982 were given to be added, write either of them under the other, *viz.* units under units, tens under tens, &c. Then, beginning with the row of units, I ſay 2 and 5 make 7, which being leſs than 9, I write it underneath; after which, paſſing to the row of tens, I ſay 8 and 7 make 15, the laſt of which numbers, *viz.* 5 only is to be ſet down, and the other carried to the next row; laſtly, proceeding to the row of hundreds, I ſay 1 carried and 9 make ten, which added to 6 make 16: this ſum is ſet down whole, as being that of the laſt row; and thus the ſum of both, *viz.* 1657, is found. See the example in the margin.

The ſame method will hold, where there are a great many ſums to be added, as in the example annexed: for, finding the ſum of the firſt row to be 18, I ſet down 8, and carry the 1 to the next row: the ſum of the ſecond row, together with the one carried, I find to be 30, and accordingly ſet down 0, and carry 3 to the row of hundreds: the ſum of the third row, and the 3 carried, being 11, I ſet down 1, and carry 1: the ſum of the fourth row, together with the 1 carried, is 24; I ſet down 4, and carry 2: laſtly, the ſum of the fifth row, together with the 2 carried, being 9, I ſet it down. Hence the ſum of the whole is 94108.

```
49583
26259
18041
  150
   75
-----
94108
```

The demonſtration of the rule of addition is very eaſy; depending entirely upon the notation in uſe, and the axiom, that the whole is equal to all the parts taken together.

ADDITION *of fractions*, is the finding the ſum of two or more given fractions, whether vulgar or decimal.

ADDITION *of vulgar fractions*. See the article FRACTION.

ADDITION *of decimal fractions* is performed in the ſame manner as that of whole numbers, only care muſt be taken to place the decimal points always under each other.

```
  86.2403
 521.058
2940.706
   3.16
---------
3551.1643
```

Thus, in the example annexed, the ſum of the firſt row is 3, which I ſet down; that of the ſecond row, 14, whereof 4 is ſet down and 1 carried: and ſo of the reſt, as expreſſed in the margin.

ADDITION, in algebra, is the connecting, or putting together, all the letters or numbers to be added, with their proper ſigns + or −. See ALGEBRA.

1. To add quantities that are like, and have like ſigns, add together their coefficients, to the ſum of which prefix the common ſign, and ſubjoin the common letter or letters. Thus,

To	$+19a$	To	$-2b$
Add	$+6a$	Add	$-5b$
Sum	$+25a$	Sum	$-7b$

To	$4a + b$	To	$a - 5x$
Add	$2a + 8b$	Add	$2a - x$
Sum	$6a + 9b$	Sum	$3a - 6x$

2. To add quantities that are like, but have unlike ſigns, ſubſtract the leſſer coefficient from the greater, prefix the ſign of the greater to what remains, and ſubjoin the common letters. Thus,

To	$-5a$	To	$+8b$
Add	$+2a$	Add	$-2b$
Sum	$-3a$	Sum	$+6b$
To	$a-6b$	To	$4a-8b$
Add	$-3a+2b$	Add	$-4a+8b$
Sum	$-2a-4b$	Sum	$0 \quad 0$

The proof of this rule is eaſily deducible from the nature of poſitive and negative quantities. See the article QUANTITY.

If there are more than two quantities to be added, firſt add the poſitive ones together into one ſum, and then the negative, by caſe I; which ſums are to be again added by caſe II. Thus,

To add $\left\{\begin{array}{l} +5a \\ -8a \\ +9a \\ -a \end{array}\right\}$ To the ſum of the poſitive $+14a$
Add that of the negative. $-9a$
Sum of all is $+5a$

3. To add quantities that are unlike, ſet them all down after one another, with their ſigns and coefficients prefixed. Thus,

To	$+4a$	To	$+a$
Add	$+2b$	Add	$-7x$
Sum	$+4a+2b$	Sum	$+a-7x$

To $+4a-2b$
Add $-8y+4x$
Sum $+4a-2b-8y+4x$

ADDITION *of fractions*, in algebra. See the article FRACTION.

ADDITIONS, in law, denote all manner of deſignations given to a man, over and above his proper name and ſurname, to ſhew of what eſtate, degree, myſtery, place of abode, &c. he is.

Additions of degree are the ſame with titles of honour, or dignity, as knight, lord, earl, duke, &c.

Additions of eſtate are yeoman, gentleman, eſquire, and the like.

Additions of myſtery, or trade, are carpenter, maſon, painter, engraver, and the like.

Aditions of place, or reſidence, are London, Edinburgh, Briſtol, York, Glaſgow, Aberdeen, &c.

Theſe additions were ordained to prevent one man's being grieved, or moleſted, for another; and that every perſon might be certainly known, ſo as to bear his own burden.

If a man is of different degrees, as duke, earl, &c. he ſhall have the moſt worthy; and the title of knight, or baronet, is part of the party's name, and therefore ought to be rightly uſed; whereas that of eſquire, or gentleman, being as people pleaſe to call them, may be uſed, or not, or varied at pleaſure.

A Peer of Ireland is no addition of honour here; nay, the law-addition to the children of britiſh noblemen is only that of eſquire, commonly called lord.

Writs without the proper additions, if excepted to, ſhall abate; only where the proceſs of outlawry doth not lie, additions are not neceſſary. The addition of a pariſh, not in any city, muſt mention the county, otherwiſe it is not good.

ADDITION *of ratios*, the ſame with what is otherwiſe called compoſition of ratios. See the articles COMPOSITION and RATIO.

ADDITION, among diſtillers, a general term for ſuch things as are added to the waſh, or liquor, while fermenting, with a view to increaſe the vinoſity and quantity of the ſpirit, or to give it a particular flavour.

Additions which the leſs intelligent confound with ferments, are chiefly ſalts, acids, aromatics, and oils. Tartar, nitre, or common ſalt, reduced to a fine powder; alſo the juice of ſeville-oranges, lemons, ſpirit of ſulphur, &c. added to the liquor, ſerve chiefly to improve the vinous acidity of the ſpirit. But for increaſing its quantity, or giving it a fine flavour, they uſe the pungent aromatics and oils. A large quantity of rectified, or any other ſpirit, may likewiſe be mixed with the liquor to be diſtilled; which will not only come back, but conſiderably increaſe the quantity of ſpirit to be procured from the diſtillation.

ADDITION, in heraldry, ſomething added to a coat of arms, as a mark of honour; and therefore directly oppoſite to abatement. See the article ABATEMENT.

Among additions we reckon a bordure, quarter, canton, gyron, pile, &c. See the articles BORDURE, QUARTER, &c. In this manner the arms of a kingdom, or ſtate, have been added to thoſe of noblemen; as happened to the dukes of Boufflers and Richlieu in the late italian war, who, by a decree of the ſenate of Genoa, were permitted to add the enſigns of that republic to thoſe of their families.

ADDITION, in muſic, a dote marked on the

the right side of a note, to signify that it is to be sounded or lengthened half as much more as it would have been without such mark. See NOTE and CHARACTER.

ADDITIONAL, in a general sense, denotes something over the usual sum or quantity.

ADDITIONAL *duties*, those charged upon certain commodities, over and above what they were formerly obliged to pay.

ADDITIVE, in a general sense, signifies something to be added: mathematicians speak of additive ratios, astronomers of additive equations: thus

ADDITIVE *ratio* is used by some writers, for that whose terms are disposed to addition, that is, to composition, in opposition to substractive ratio, whose terms are disposed to substraction, *i. e.* to division. Suppose the line *a c* divided in the points *b* and *x*,

a *b* *x* *c*

the ratio between *a b* and *b x* is additive; because the terms *a b* and *b x* compose the whole *a x*. But the ratio between *a x* and *b x* is substractive, because *a x* and *b x* differ by the line *a b*.

ADDITIVE *equations*, in astronomy, those which are to be added to the sun's mean anomaly, in order to find the true one. See EQUATION, ANOMALY, &c.

ADDRESS, in a general sense, denotes the nice management of an affair, or the transacting it with great propriety and skill.

ADDRESS is, more particularly, used for a speech made to the king in the name of some considerable body of men, by way of congratulation, petition, or remonstrance.

Addresses of parliament were first set on foot under Oliver Cromwell.

ADDUCENT *muscles*, among anatomists, the same with those more usually called adductors. See the article ADDUCTOR.

ADDUCTION, *adductio* among anatomists, denotes the action of the muscles called *adductores*. See ADDUCTOR.

ADDUCTOR, in anatomy, a general name for all such muscles as serve to draw one part of the body towards another. Thus,

ADDUCTOR *brachii* is a muscle of the arm, serving to bring it towards the trunk of the body.

ADDUCTOR *indicis*, a muscle of the fore-finger, which draws it towards the thumb.

ADDUCTOR *oculi*, a muscle of the eye, directing its pupil towards the nose; and otherwise called *bibitorius*, for a like reason.

Anatomists reckon up several other adductors, as the *adductor pollicis*, the *adductor pollicis pedis*, *adductor minimi digiti pedis*, *adductor prostatæ*, &c.

ADEA, a province of Annian, on the eastern coast of Africa, called by some Adel.

ADEB, in commerce, a weight used in Egypt, principally for weighing rice.

ADEL, in geography, the capital city of Adea. It is situated about three hundred miles south of the straits of Babelmandel.

ADELSCALC, in old writers, denotes a servant of the king.

Adelscalcs, among the Bavarians, seem to have been the same with royal thanes among the Saxons, and the *ministri regis* in antient charters.

ADEMPTION, *ademptio*, among civilians, denotes the revocation of some donation or favour. See REVOCATION.

The ademption of a legacy may be done either in express terms, or indirectly, by disposing of it otherwise.

ADEN, a sea-port town of Arabia Felix, a little eastward of the straits of Babelmandel.

ADENANTHERA, in botany, a genus of the Decandria Monogynia class of plants, the calyx of which is a single-leaved perianthium, very small, and cut into five segments: the corolla consists of five lanceolated bell-shaped petals, the fruit is a long membranaceous compressed pod, containing several round seeds.

ADENOGRAPHY, αδηνογραφια, or ADENOLOGY, that part of anatomy, which treats of the glands. See GLAND.

ADENOSE *abscess*, *adenosus abscessus*, is used for a hard tubercle, difficult to be discussed, and resembling a gland. See the article ABSCESS.

ADEPS, in anatomy, denotes the fat found in the abdomen; differing from the common fat or *pinguedo*, as being thicker, harder, and of a more earthy substance.

ADEPS, among physicians, is used in a more general sense, for all kinds of animal fat: these they prescribe for their ripening quality. See the article RIPENERS.

ADEPTS, the name given to the proficients in alchemy, particularly those who pretend to have found out the philosopher's stone, and the panacea, or universal medicine.

Alchemists will have it, that there are always twelve adepts; the places of those who die being immediately supplied by others of the fraternity.

ADEQUATE, in a general ſenſe, ſomething exactly correſponding with another. Thus,

ADEQUATE *ideas*, are thoſe which perfectly repreſent all the parts and properties of the object. See the article IDEA.

In this ſenſe, the idea of a figure bounded by a curve line, which returns into itſelf, and whoſe parts are all equally diſtant from a certain point in the middle, is an adequate idea of a circle.

All ſimple and abſtracted ideas are adequate ones, becauſe they repreſent objects as they really are: whereas thoſe of ſubſtances are inadequate, in regard our knowledge of ſubſtances is extremely defective.

ADESSENARIANS, *adeſſenarii*, a ſect of chriſtians, who maintain that Jeſus Chriſt is really preſent in the euchariſt, though not by way of tranſubſtantiation. See the article TRANSUBSTANTIATION.

The adeſſenarians differ among themſelves, ſome of them holding that the body of Jeſus Chriſt is in the bread; others, that it is about the bread; others, that it is with the bread; and others, that it is under the bread. See EUCHARIST.

ADFECTED *equations*, in algebra, thoſe wherein the unknown quantity is found in two or more different powers: ſuch is $x^3-ax^2+bx=a^2b$.

For the ſolution of theſe and other equations. See the article EQUATION.

ADFILIATION, *adfiliatio*, a gothic cuſtom, whereby the children of a former marriage are put upon the ſame footing with thoſe of the ſecond marriage. This is otherwiſe called *unio prolium*, and ſtill retained in Germany, under the name *einkindſchafft*.

ADHATODA, in botany, a genus of plants, the flower of which is perſonated, conſiſting of one leaf divided into two lips, the upper one of which is bent backwards, and the lower one divided into three ſegments; the piſtil, which is fixed into the lower part of the flower, in the manner of a nail, finally becomes a club-faſhioned fruit, or capſule, flat, and divided into two cells, containing ſeveral ſmall, compreſſed, and heart-like ſeeds. See plate VI. fig. 4.

This plant is called by Linnæus Juſticia: for the characters of which, according to that botaniſt's ſyſtem, ſee JUSTICIA.

ADHESION, in phyſiology, is uſed to denote the ſticking together of two bodies.

The adheſion of leaden balls is ſo very conſiderable, that with two (not weighing above a pound each, nor touching upon more than $\frac{1}{10}$ of a ſquare inch ſurface) above one hundred and fifty pounds weight have been raiſed. In order to do this, the ſurfaces by which they touch muſt be finely planed, with the edge of a ſharp penknife, and equally preſſed together with a conſiderable force, with a gentle turn of the hand at the ſame time; and thus two common leaden bullets will adhere ſo firmly together, as to require upwards of fifty pounds weight to ſeparate them. In poliſhed ſurfaces that are very hard, as glaſs, braſs, &c. it is impoſſible to bring the bodies into ſuch cloſe contact as to cohere without the interpoſition of water, or ſomething humid to fill the pores by expelling the air contained therein, which prevents the planes coming together while dry; the humidity in this caſe proves a cement, which holds the planes together by all its force of attraction on either ſide.

Muſchenbroek has given many curious experiments on the adheſion of bodies, which he attributes to attraction. See the article ATTRACTION.

ADHESION, among logicians, denotes the maintaining ſome tenet, merely on account of its ſuppoſed advantage, without any poſitive evidence for its truth.

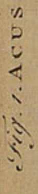
ADHESION, in medicine and anatomy. There are frequent inſtances of the adheſion of the lungs to the pleura and diaphragm, which occaſions many diſorders. We alſo read of adheſions of the inteſtines of the dura mater to the cranium, &c.

ADJACENT, an appellation given to ſuch things as are ſituated near, or adjoining to each other: thus we ſay, an adjacent angle, an adjacent country, &c.

ADIANTUM, *maidenhair*, in botany, a genus of the cryptogamia claſs of plants, and of that order called the filices, the characters of which are not perfectly aſcertained, having no viſible flower; the ſeeds are contained in ſpherical capſules, placed in the ſinuſes and folds of the leaves, and ſurrounded each with an elaſtic ring, which contracting burſts the capſule and ſcatters the minute ſeeds: beſides, as the the leaves of all the ſpecies of maidenhair have one general appearance, it is eaſy to diſtinguiſh them from other plants of the fern-kind. See plate VII. fig. 1.

Adiantum is greatly eſteemed as a pectoral, and gives name to a ſyrup, much uſed in that intention.

ADIAPHORISTS, or ADIAPHORITES, in church hiſtory, names given to the moderate Lutherans, in the ſixteenth century. The name imports lukewarmneſs, or indifference;


Fig. 1. Acus.
Fig. 2. Acus of Oppian.
Fig. 3. Adders-Tongue.
Fig. 4. Adhatoda.
T. Jefferys sculp.

difference; being compounded of the privative *α* and διαφορος, different.

ADIAPHOROUS, an epithet given by Mr. Boyle to a ſpirit diſtilled from tartar and ſome other vegetable bodies: it is ſaid to be neither acid nor urinous, and in many reſpects different from any other ſpirit.

ADJECTIVE, in grammar, a word expreſſing ſome quality, or other accident, of the ſubſtantive with which it is joined: thus in the phraſe, pure gold, the word pure is an adjective, ſhewing the quality of the gold.

When the quality is the ſubject whereof we ſpeak it becomes a ſubſtantive: thus if I ſay, good is always to be choſen, the word good is a ſubſtantive; but in the phraſe, Peter is a good man, the word good is evidently an adjective, expreſſing the character of Peter.

ADIGE, a great river of Italy, which, taking its riſe in Tyrol, runs ſouthward by Trent, then eaſtward by Verona, and at laſt falls into the gulph of Venice northwards of the mouth of the river Po.

AD INQUIRENDUM, in law, a writ commanding inquiry to be made about ſomething connected with a cauſe depending in the king's courts; as of baſtardy for inſtance.

ADJOINING, in a general ſenſe, denotes the ſame with adjacent. See ADJACENT.

ADJOURNMENT, in law, the putting off a court, or meeting, to another time or place. Thus, adjournment *in eyre* is the appointment of a certain day, when the juſtices in eyre are to meet again.

Adjournments of parliament differ from prorogations, in being not only for a ſhorter time, but alſo in regard each houſe has the privilege of adjourning itſelf. See the article PROROGATION.

ADIPOSE, in a general ſenſe, denotes ſomething belonging to the fat of the body.

The term adipoſe is chiefly uſed by phyſicians and anatomiſts, in whoſe writings we read of adipoſe cells, adipoſe ducts, adipoſe membranes, adipoſe veſſels, &c.

ADIRBEITZAN, a province of Perſia, ſituated on the weſtern ſhore of the caſpian ſea: it makes part of the antient Media.

ADIT, *aditus*, in a general ſenſe, ſignifies the paſſage to, or entrance of any thing. Thus we read of an adit of a mine, adit of a theatre, adit of ſhips, &c. See the articles MINE, THEATRE, &c.

ADJUDGING, or ADJUDICATION, in law, the determining a cauſe in favour of a perſon. This term is, more particularly, uſed for the transferring the property of a thing ſold by auction to the higheſt bidder.

ADJUNCT, *adjunctum*, among philoſophers, ſomething added to another, to which it does not naturally belong: thus water in a ſpunge, is an adjunct to it; ſo are clothes to a man.

Adjuncts are what we commonly call circumſtances, theſe, in ethics, are commonly reckoned ſeven, *quis, quid, ubi, quibus auxiliis, cur, quomodo, quando.*

ADJUNCTS, in rhetoric, a denomination given to all words added with a view to increaſe the force of the diſcourſe: ſuch are adjectives, attributes, epithets, &c.

ADJUNCT is alſo uſed for a colleague, or aſſiſtant. Thus,

Adjunct Gods, in heathen theology, were a kind of inferior deities, whoſe office it was to aſſiſt the ſuperior gods: ſuch were Mars, Bellona, and Nemeſis accounted.

ADJUNCTS, in the Paris academy of ſciences, are a ſet of members attached to the ſtudy of ſome particular ſcience. They are twelve in number; two for geometry, two for aſtronomy, two for anatomy, two for mechanics, two for chemiſtry, and two for botany. See the article ACADEMY.

ADJUNCTION, the act of joining ſeveral things together.

There are different kinds of adjunction; as by adheſion, oppoſition, impoſition, &c.

AD JURA REGIS, in law, a writ which lies for a clerk preſented to a living by the king, againſt thoſe who endeavour to eject him, to the prejudice of the king's title.

ADJURATION, that part of exorciſm which conſiſts in commanding the evil ſpirit, in the name of God, to depart out of the poſſeſſed perſon, or to anſwer ſome queſtion.

ADJUTAGE, or AJUTAGE, in hydraulics, the tube fitted to the mouth of a jet d'eau.

It is through the adjutage that water is played, and directed into any deſired figure; ſo that the great diverſity of fountains conſiſts chiefly in the different ſtructure of their adjutages. See FOUNTAIN.

ADJUTANT, in the military art, an officer whoſe buſineſs it is to aſſiſt the major, and therefore ſometimes called the aid major. See the article MAJOR.

Each battalion of foot, and regiment of horſe, has an adjutant, who receives the orders every night from the brigade-major; which, after carrying them to the colonel, he delivers out to the ſerjeants. When detachments are to be made, he gives the number to be furniſhed by each company, and aſſigns the hour and place

of rendezvous. He alfo places the guards, receives and diftributes the ammunition to the companies; and, by the major's orders, regulates the price of bread, beer, *&c.* Adjutant is fometimes ufed, by the French, for an aid de camp. See AID *de camp.*

ADJUTANTS *general,* among the jefuits, a felect number of fathers, who refide with the general of that order: they have each a province or country affigned them, as England, Germany, *&c.* and their bufinefs is to inform the father general of ftate occurrences in fuch countries.

ADJUTORIUM, among phyficians, is ufed for a medicine prefcribed along with another more efficacious one; and, particularly, for an external application, after the proper ufe of internal medicines.

ADJUTORIUM, in anatomy, a name fometimes given to the humerus, or fhoulder-blade. See the article HUMERUS.

ADLE *eggs,* fuch as have not been impregnated by the cock. See the article EGG.

ADLEGATION, *adlegatio,* in the cuftoms of Germany, a right claimed by feveral princes of that empire, to fend plenipotentiaries conjunctly with thofe of the emperor, to all negociations wherein the empire in general is concerned.

The emperor difputes this privilege of adlegation, to the princes of the empire; but allows them that of legation, or fending ambaffadors about their own private affairs. Hence adlegation differs from legation, which is the right of fending ambaffadors on a perfon's own account.

ADLOCUTION, *adlocutio,* in roman antiquity, fignifies the fpeech made by generals to their army, in order to rouze their courage before a battle.

ADMANUENSES, in our old law books, a term denoting laymen, who fwore by laying their hands on the book: whereas the clergy were forbid to fwear on the book, their word being deemed equal to an oath.

ADMEASUREMENT, in law, a writ for adjufting the fhares of fomething to be divided. Thus, admeafurement of dower takes place, when the widow of the deceafed claims more as her dower than what of right belongs to her. And, admeafurement of pafture may be obtained, when any of the perfons who have right in a common pafture, puts more cattle to feed on it than he ought.

ADMINICLE, *adminiculum,* in our old law books, is ufed for aid, help, or fupport.

ADMINICLE, in the french jurifprudence, fignifies the beginning or firft fketch of a proof.

ADMINICLES, among antiquarians, denote the attributes or ornaments wherewith Juno is reprefented on medals.

ADMINICULATOR, in church hiftory, an officer otherwife called advocate of the poor. See the article ADVOCATE.

ADMINISTRATION, in a political fenfe, denotes, or ought to denote, the attendance of the truftees of the people on public affairs; but, more particularly, adminiftration is ufed for the executive part of the government, which is faid to be good or bad, according as the laws are duly enforced, and juftice done the fubjects. See the article GOVERNMENT.

ADMINISTRATION, in law, the office of an adminiftrator. See ADMINISTRATOR. Whenever a man dies inteftate, letters of adminiftration are taken out in the prerogative court.

ADMINISTRATION is alfo ufed for the management of the affairs of a minor, lunatic, *&c.*

ADMINISTRATION, among ecclefiaftical writers, denotes the power wherewith a parfon is invefted; and that as well in regard to the temporalities of his cure, as to its fpiritualities, *viz.* the power of excommunicating, of adminiftring the facraments, *&c.*

ADMINISTRATION, among anatomifts, denotes the art of properly diffecting the parts of the human body, and particularly the mufcles.

ADMINISTRATION, in commerce, a regulation at Calao, a city of Peru, obliging all fhips allowed to trade on the coaft, to unload their european goods, and pay certain duties.

ADMINISTRATOR, in law, the perfon to whom the goods, effects, or eftate of one who died inteftate, are entrufted; for which he is to be accountable, when required.

The bifhop of the diocefe where the party dies, is regularly to grant adminiftration: but if the inteftate has goods in feveral diocefes, adminiftration muft be granted by the archbifhop in the prerogative court. The perfons to whom adminiftration is granted, are a hufband, wife, children, whether fons or daughters, the father or mother, brother or fifter, and, in general, to the next of kin, as uncle, aunt, coufin; then to a creditor.

An action lies for and againft an adminiftrator, as for and againft an executor; only that he is accountable no farther, than to the value of the goods.

ADMINISTRATOR is alfo ufed in feveral other fenfes, as for an advocate of a church;

church; for a perſon appointed to receive and manage the revenues of an hoſpital or religious houſe; for a prince who enjoys the revenues of a ſecularizing biſhopric; and, laſtly, for the regent of a ſtate during a minority, or a vacancy of the throne: in this laſt ſenſe, we ſay, the adminiſtrator of Sweden, of Wirtemberg, *&c.*

ADMINISTRATIVE, properly denotes a power held in right of ſome other perſon or perſons.

ADMINISTRATRIX, a female, or woman who acts as adminiſtrator. See the article ADMINISTRATOR.

ADMIRAL, *admirallus* or *admiralius*, in maritime affairs, a great officer, who commands the naval forces of a kingdom or ſtate, and decides all maritime cauſes. There are ſeveral opinions with regard to the origin and denomination of this important officer, whom we find eſtabliſhed in moſt maritime kingdoms. Some will have it that both the name and dignity are derived from the Saracens; for Admiral, in the Arabian language, ſignifies a prince or chief ruler; and therefore the chief commander of the navy was called by this name, as a mark of dignity and honour. And it muſt be obſerved, in favour of this opinion, that there are no inſtances of admirals in this part of the world, before the year 1284, when Philip of France, who had attended St. Lewis to the wars againſt the Saracens, created an admiral. Others borrow it from the Greeks, the captain of the ſeas, under the emperor of Conſtantinople, being called ἀμηραλιος, which is derived from ἅλμη, ſalt-water, and ἀρχος, chief; becauſe his juriſdiction lay on the ſea. But this officer was not inveſted with the ſupreme adminiſtration of naval affairs, being ſubordinate to the *dux magnus*, or grand general.—It is uncertain when the term was introduced among us, but the firſt mention of it is during the reign of Edward I.

Lord High ADMIRAL *of Great Britain*, called in ſome antient records, *Capitaneus Marinorum*, is judge, or preſident, of the court of admiralty. He has the management of all maritime affairs, and the government of the royal navy, with power of deciding in all maritime cauſes, both civil and criminal; he judges of all things done upon, or beyond the ſea, in any part of the world; upon the ſea-coaſts, in all ports and havens, and upon all rivers, below the firſt bridge, from the ſea. From him, vice-admirals, rear-admirals, and all other officers in the navy, receive their commiſſions: He alſo appoints the judges for his court of admiralty, and may impriſon, releaſe, *&c.* In ſhort, this is ſo great an office, with regard to truſt, honour, and profit, that it has uſually been given to princes of the blood, or the moſt eminent perſons among the nobility.

For ſome time paſt, we have had no lord high-admiral in Britain; that office being executed by a certain number of commiſſioners, called lords of the admiralty. See the article ADMIRALTY.

This term alſo denotes the commander in chief of a ſingle fleet or ſquadron; or, in general, any flag officer whatever.

In the britiſh navy, beſides the admiral who commands in chief, there are the vice-admiral who commands the ſecond ſquadron, and the rear-admiral, who commands the third ſquadron. The admiral carries his flag at the main-top-maſt head; the vice-admiral at the fore-top-maſt-head; and the rear-admiral, at the mizen-top-maſt-head. See the article FLAG.

Vice-ADMIRAL likewiſe denotes an officer inveſted with the juriſdiction of an admiral, within a certain county or diſtrict. There are upwards of twenty ſuch vice-admirals in Great-Britain; but an appeal lies from their ſentence, or determination, to the admiralty-court in London.

In France, the admiral is one of the great officers of the crown, general of the marine, and of all the naval forces of the kingdom. From him the captains and maſters of trading veſſels are obliged to take their licences, paſſports, commiſſions, and ſafe-conducts.

The tenth of all prizes belongs to him, and the whole of all fines adjudged in the courts of admiralty. He alſo has the duty of anchorage, tonnage, *&c.*

ADMIRAL is alſo an appellation given to the moſt conſiderable ſhip of a fleet of merchant-men, or the veſſels employed in the cod-fiſhery of Newfoundland.

This laſt has the privilege of chooſing what place he pleaſes on the ſandy ſhore, to dry his fiſh. He alſo gives proper orders, and appoints the fiſhing places to thoſe who come after him; and as long as the fiſhing-ſeaſon continues, he carries a flag on his main-maſt.

ADMIRAL, in conchyliology, the name of a beautiful ſhell of the voluta-kind, much admired by the curious. See VOLUTA. There are four ſpecies of this ſhell, *viz.* the

the grand admiral, the vice-admiral, the orange-admiral, and the extra-admiral. The first is extremely beautiful, of an elegant white enamel, variegated with bands of yellow, which represent, in some measure, the colours of the flags in men of war. It is of a very curious shape, and finely turned about the head, the clavicle being exerted; but its distinguishing character is a denticulated line, running along the center of the large yellow band: by this it is distinguished from the vice-amiral, the head of which is also less elegantly formed. See plate VII. fig. 2. where A represents the admiral, B the vice-admiral.

The orange-admiral has more yellow than any of the others, and the bands of the extra-admiral run into one another.

ADMIRALTY, properly signifies the office of lord high-admiral, whether discharged by one or several joint commissioners, called lords of the admiralty.

In Holland there are five admiralties, boards, or chambers, composed of the deputies of the nobles, the provinces, and towns, who have the care of fitting out fleets, and, in general, of all maritime affairs.

ADMIRALTY-*Court*, or court of admiralty, in the british polity, a sovereign court, held by the lord high-admiral, or the commissioners of the admiralty.

This court has cognizance in all maritime affairs, civil as well as criminal. All crimes committed on the high-seas, or in great rivers, beneath the bridge next the sea, are cognizable only in this court; which, by statute, is obliged to try the same by judge and jury. But in civil causes, it is otherwise, these being all determined according to the civil law; the reason whereof is, because the sea is without the jurisdiction of the common law.

In case any person be sued in the admiralty court, contrary to the statutes, he may have the writ of supersedeas to stop farther proceedings, and also an action for double damages against the person suing.

Subordinate to this court, there is another of equity called court-merchant; wherein all causes between merchants are decided, agreeable to the rules of the civil law.

ADMIRATION, in a general sense, signifies an expression of wonder at some excellence; and sometimes the astonishment, conceived at some extraordinary event.

Grammarians have a character for expressing this affection, or state of mind, called a point of admiration, and marked thus (!).

ADMISSION, *admissio*, among ecclesiastical writers, denotes the act of a bishop's admitting, or allowing a clerk to be able, or qualified for serving a cure.

This is done after examination, by pronouncing the formula *admitto te habilem*. If any person presume to be admitted, who has not episcopal ordination, he shall forfeit 100 *l.*

ADMITTENDO *clerico*, a writ granted to a person who has recovered his right of presentation in the common pleas; by which the bishop, or metropolitan, is ordained to admit his clerk. See the article ADMISSION.

ADMITTENDO *in socium*, a writ associating certain persons, usually knights, and other gentlemen of the county, to the justices of assize already appointed.

ADMONITION, in church-history, a part of discipline, which consists chiefly in warning an offender of the irregularities he is guilty of, and advising him to mend his manners.

By the antient canons, nine admonitions were required before excommunication. See the article EXCOMMUNICATION.

ADMONITIO *fustium*, among the Romans, a military punishment, not unlike our whipping, only that it was performed with vine branches.

ADMORTIZATION, in the feudal customs, the reducing the property of lands, or tenements to mortmain. See the article MORTMAIN.

ADNAME, among grammarians. See the article ADNOUN.

ADNASCENTIA, among gardeners. See the article ADNATA.

ADNATA, in anatomy, one of the tunics or coats of the eye, otherwise called conjunctiva and albuginea.

It is the same part with what is called the white of the eye, formed by the tendinous expansions of the muscles which move the eye. See the article EYE.

ADNATA, or ADNASCENTIA, among gardeners, terms used for such off-sets, as, by a new germination under the earth, proceed from the lilly, narcissus, hyacinth, and other flowers; and afterwards grow to the roots. These by the French are called *cayeux*.

ADNATA is also a term used for such things as grow upon animal or vegetable bodies, whether inseparably, as hair, wool, horns, &c. or accidentally, as the several epistical plants.

ADNOUN, or ADNAME, *adnomen*, terms sometimes used to denote an adjective. See the article ADJECTIVE.

AD-OCTO, a phrase used by antient philosophers, importing the highest degree of perfection, by reason they reckoned none above the eighth.

ADOLESCENCE, *adolescentia*, the flower of a man's youth, commencing from his infancy, and terminating at his full stature or manhood.

This period of human life is commonly computed from fifteen to twenty-five years of age. Among the Romans, it was reckoned from twelve to twenty-five, in boys; and from twelve to twenty-one in girls.

ADONAI, one of the names of God used in the scriptures, and properly signifying *my lords*, in the plural, as adoni does *my lord*, in the singular number.

ADONIA, in antiquity, festivals kept in honour of Venus, and in memory of her beloved Adonis.

The adonia lasted two days, on the first of which the images of Venus and Adonis were carried with great solemnity, in manner of a funeral; the women crying all the while, tearing their hair, and beating their breasts. On the second, changing their note, they sung his praises, and made rejoicings, as if Adonis had been raised to life again.

The adonia were celebrated by most antient nations, as Greeks, Egyptians, Syrians, Lycians, &c. The prophet Ezekiel, c. viii. ver. 14. is thought to mean these festivals.

ADONIC, in antient poetry, a kind of verse consisting of a dactyle and spondee or trochee, marked thus —⏑⏑ | —— or —⏑⏑ | —⏑, as *stella refulsit*.

This kind of verse had its name adonic, on account of its being originally used in the lamentations for Adonis. However, its principal use among poets, is to serve as a conclusion to each strophe of saphic verse.

ADONIDES, in botany, an appellation given to such botanists as have given descriptions or catalogues of the plants cultivated in some particular place.

ADONIS, PHEASANT'S EYE, or RED MAITHS, in botany, a genus of the polyandria polygynia class of plants, the calyx of which is a perianthium composed of five obtuse, hollow, somewhat coloured and deciduous leaves; the corolla consists of five oblong obtuse beautiful petals; and sometimes there are more than five: there is no pericarpium; the receptacle is oblong, spicated, and holds five series of seeds; the seeds are numerous, irregular and angular, gibbous at the base, and their apex reflex and prominent.

ADOPTIANI, in church-history, a sect of heretics, who maintained that Christ, with respect to his human nature, was not the natural, but adoptive son of God.

ADOPTION, *adoptio*, a solemn act, whereby one man makes another his heir; investing him with all the rights and privileges of a son.

Adoption was in frequent use among the Greeks and Romans, who had many regulations concerning it. The Lacedemonians, in order to prevent inconsiderate adoptions, had a law, that they should be transacted, or at least confirmed, before their kings; at Athens, slaves, madmen, and persons under age, were incapable of adopting; and at Rome, adoptions were confirmed before the pretor, in an assembly of the people, or by a rescript of the emperor.

Adoption, being chiefly designed for the comfort of those who had no children of their own, was looked upon as a kind of imitation of nature. Accordingly, young men were not permitted to adopt their elders; on the contrary, it was necessary that the adopter should be eighteen years older than his adopted son, to give an appearance of probability of his being the natural father.

Children, thus adopted, were invested with all the privileges, and obliged to perform all the duties of natural children, even to the assuming the names of the person who adopted them; and being thus provided for in another family, they ceased to have any claim of inheritance, or kindred, in the family they had left, unless they first renounced their adoption; which, by Solon's laws they were not permitted to do, till they had begotten children to bear the name of their adopted father.

On the other hand, the person who had once adopted children, was not permitted to marry afterwards, without express leave from the magistrate; whom it was usual to petition for such a licence, in case the adopted children acted an ungrateful part.

Among the Romans, before adoption could take place, the natural father was obliged to renounce all authority over his son, and with great formality consent

ſent that he ſhould be tranſlated into the family of the adopter. The adoption of a perſon already free was called adrogation.

The ceremonies of adoption being various, have given riſe to a great many different kinds of it: thus, we read of adoption by teſtament, when a man adopted another by his laſt will; adoption by arms, or the preſenting the adopted ſon with a ſuit of armour; adoption by cutting off the hair; adoption by matrimony, or the adopting the children of a wife by a former huſband, *&c.*

Adoption, in a theological ſenſe, denotes an act of God's free grace, whereby thoſe who believe in Chriſt are accounted the children of God, and entitled to a ſhare in the inheritance of the kingdom of heaven.

ADOPTIVE, in a general ſenſe, ſignifies ſomething adopted. Thus, we ſay, adoptive children, an adoptive book, *&c.* This laſt is the title given by Menage to a book of elegies, or verſes addreſſed to him.

Adoptive *arms*, in heraldry, thoſe enjoyed by the conceſſion of another, which the adopter is obliged to marſhal with his own, as being the condition of ſome honour or eſtate left him.

Adoptive is ſometimes alſo uſed for borrowed or foreign: thus we ſay, adoptive hair, adoptive goods, *&c.*

Of adoptive hair, are made all manner of wigs, têtes, *&c.* at preſent in ſuch univerſal uſe.

Beſides their domeſtic gods, the Romans had a multitude of adopted ones, borrowed from foreign nations.

ADORATION, *adoratio*, denotes the act of worſhipping God, or a being ſuppoſed to be God.

The word comes from *ad*, to; and *os*, *oris*, the mouth, and imports, to kiſs the hand, this being univerſally acknowledged to be a mark of great reſpect.

Among the Jews, adoration conſiſted in kiſſing the hands, bowing, kneeling, and even proſtration. Hence, in their language, the word kiſſing is uſed for adoration. As to the ceremony of adoration among the Romans, it was performed with the head veiled, or covered; the devotee applying his right-hand to his lips, the fore-finger reſting on the thumb, which was erect; and then bowing, he turned himſelf round from left to right. The Gauls, on the contrary, thought it more religious to turn from right to left; and the Greeks, to worſhip with their heads uncovered. The chriſtians follow the grecian rather than the roman mode, by uncovering when they perform any act of adoration.

Divines ſpeak of a great many kinds of adoration: thus, we read of ſupreme adoration, or that which is paid immediately to God; of ſubordinate adoration, rendered to inferior beings; of abſolute adoration, or that paid to a being on account of its own perfections: this is oppoſed to relative adoration, or that paid to an object, as belonging to, or repreſenting another.

Adoration is alſo uſed, in a civil ſenſe, for any extraordinary homage or reſpect paid by one man to another.

The Perſians adored their kings, by falling proſtrate before them, ſtriking the earth with their fore-heads, and kiſſing the ground. This was a piece of ſervility, which Conon, a nobleman of Athens, refuſed to comply with, when introduced to Artaxerxes; neither would the philoſopher Caliſthenes perform it to Alexander the great, as judging it impious and unlawful.

The roman emperors were adored, by bowing or kneeling at their feet, laying hold of their purple robe, and immediately withdrawing the hand, and kiſſing it.

Adoration is more particularly uſed, for the ceremony of paying homage to the pope, by kiſſing his feet; which not only the people, but the greateſt prelates, and even princes make no ſcruple of performing. Proteſtants have hence taken occaſion, and not without reaſon, to charge the popes with exceſſive pride, and even impiety.

Adoration is ſtill more particularly uſed, for a method of electing a new pope, when the cardinals, inſtead of proceeding in the uſual way, unanimouſly fall down and adore one of their own number.

Adoration is the laſt ceremony of a regular election, but here it is the election itſelf, or rather ſuperſedes it.

Perpetual Adoration, in the church of Rome, a kind of religious ſociety, frequent in the popiſh countries; which conſiſts of devout perſons, who, by regularly relieving each other, keep conſtantly praying before the euchariſt both day and night.

ADOREA, in roman antiquity, a word uſed in different ſenſes; ſometimes for all manner of grain; ſometimes for a kind

kind of cakes made of fine flour, and offered in facrifice; and, finally, for a dole or diftribution of corn, as a reward for fome fervice: whence, by metonymy, it is put for praife or rewards, in general.

ADOSCULATION, a term ufed by Grew for a kind of impregnation, effected by the external contact of the parts of generation, without intromiffion. Such he fuppofes that of feveral birds and fifh, as well as of plants, which is effected by the falling of the farina fœcundans on the piftil.

ADOSSE'E, in heraldry, a term ufed for two rampant animals, placed back to back.

It alfo denotes any other figure, as axes, keys, &c. placed with their heads facing different ways.

ADOUR, the name of three rivers of France, in the province of Gafcony; which, arifing from different fources, afterwards unite, and fall into the bay of Bifcay below Bayonne.

ADOXA, in botany, a genus of the octandria tetragynia clafs of plants, the corolla of which is plain, and confifts of a fingle petal, divided into four oval acute fegments, longer than the cup; the fruit is a globofe berry, fituated between the calyx and corolla; the calyx adheres to its under-part; the berry is umbilicated, and contains four cells; the feeds are fingle and compreffed. This is the fructification of the terminatory flower, the lateral ones all add a fifth to the number of the parts.

AD PONDUS OMNIUM, among phyficians, denotes, that the laft-mentioned ingredient ought to weigh as much as all the reft put together.

ADQUISITUS, in antient mufic, a name given by the Romans to the note called by the Greeks *proflambanomenos*.

AD QUOD DAMNUM, in law, a writ which ought to be iffued before the king grants certain liberties, as a fair, market, or the like; ordering the fheriff to enquire by the country what damage fuch a grant is like to be attended with.

This writ is alfo iffued, for making the fame enquiry with refpect to lands granted to religious houfes, or corporations; for turning and changing of highways, &c.

ADRACANTH, the fame with tragacanth. See the article TRAGACANTH.

ADRESS, or ADDRESS. See ADDRESS.

ADRIA, a fmall town of Italy, about twenty-fix miles fouth of Venice, formerly a bifhop's fee, which is now tranflated to Rovigo.

It was from this town that the adriatic fea, or gulph of Venice, took its name.

ADRIANOPLE, a great and populous city of Turkey in Europe, fituated in a fine plain, on the river Marizam, about 150 miles N. W. of Conftantinople. It is eight miles in circumference, and frequently honoured with the grand fignior's prefence. Eaft longitude 26° 30′ N. latitude 42°.

ADRIATIC *fea*, the fame with the gulph of Venice, being a very confiderable branch or part of the Mediterranean, reaching from Otranto to Venice, and wafhing the northern coaft of Italy.

ADROGATION, in antiquity, that kind of adoption, which took place in regard to a perfon already his own mafter. See the article ADOPTION.

It was fo called on account of a queftion put to both the parties; to the adopter, whether he would take fuch a perfon for his fon; and to the adopted, whether he confented to become fuch a perfon's fon?

ADSCRIPTS, a term ufed by fome mathematicians for the natural tangents. See the article TANGENT.

ADSIDELA, in antiquity, the table at which the flamens fat during the facrifices. See the article SACRIFICE.

ADSTRICTION, among phyficians, is ufed to denote the too great rigidity and clofenefs of the emunctories of the body, particularly the pores of the fkin: alfo for the ftyptic quality of medicines. See the article ASTRINGENTS.

AD TERMINUM *qui præteriit*, in law, a writ of entry, that lies for the leffor or his heirs, if after the expiration of a term for life or years, granted by leafe, the tenant or other occupier of the lands, &c. with-holds the fame from fuch leffor.

ADVANCE, in the mercantile ftile, denotes money paid before goods are delivered, work done, or bufinefs performed. To pay a note of hand, or bill, by advance, is to pay the value before it becomes due; in which cafe it is ufual to allow a difcount for the time it is preadvanced.

ADVANCED, in a general fenfe, denotes fomething pofted or fituated before another: Thus, advanced ditch, or moat, in fortification, is that drawn round the glacis or efplanade of a place. See MOAT.

ADVANCED-*guard*, or VANGUARD, in the art of war, denotes the firft line or divifion of an army, ranged, or marching in order of battle; or it is that part which is next the enemy, and marches firft towards them. See the article ARMY.

Advanced-guard is more particularly ufed for a fmall party of horfe ftationed before the main-guard. See the article GUARD.

ADVANCER, among fportfmen, denotes one of the ftarts, or branches of a buck's attire, between the back antler, and the palm.

ADUAR, in the arabian and moorifh cuftoms, a kind of ambulatory village, confifting of tents; which thefe people remove from one place to another, as fuits their conveniency.

ADVENT, in the calendar, denotes the time immediately preceding Chriftmas. It includes four fundays, or weeks, which begin either on St. Andrew's day, or on the funday before or after it.

The term advent, *adventus*, properly fignifies the approach or coming on of the feaft of the nativity. See NATIVITY.

During advent, and to the end of the octaves of epiphany, the folemnizing of marriage is forbid, without a fpecial licence. See the article MARRIAGE.

ADVENTITIOUS, an appellation given to whatever accrues to a perfon or thing from without. Such are fparry incruftations upon wood, &c.

ADVENTITIOUS, among civilians, denotes all fuch goods as are acquired accidentally, or by the liberality of a ftranger, &c.

ADVENTITIOUS *foffils*, the fame with extraneous or foreign ones, found imbodied in other foffils: fuch are fhells, bones, &c. in ftone.

AD VENTREM *infpiciendum*, in law, a writ by which a woman is to be fearched whether fhe be with child by a former hufband, on her with-holding of lands from the heir.

ADVENTURE, in a general fenfe, denotes fome extraordinary event, efpecially fuch as falls out cafually.

ADVENTURE alfo denotes a hazardous, or difficult undertaking, the fuccefs whereof depends on fomething not in the power, or under the controul of the adventurer; in which fenfe, fending goods to fea, fighting a battle, &c. are great adventures.

Bill of ADVENTURE, among merchants, a writing figned by a merchant, teftifying that the goods mentioned in it to be fhipped on board a certain veffel, belong to another perfon, who is to run all hazards; the merchant only obliging himfelf to account to him for the produce of them, be what it will.

ADVENTURER, in a general fenfe, denotes one who hazards fomething. See the article ADVENTURE.

By ftatute 13 Geo. II. c. 4. adventurers may obtain a charter for whatever fettlements in America they fhall take from the enemy.

ADVENTURERS, or *merchant*-ADVENTURERS, a company of merchants erected for the difcovery of lands, trades, &c. See the article COMPANY.

ADVERB, *adverbium*, in grammar, a word joined to verbs, expreffing the manner, time, &c. of an action: thus, in the phrafe, *it is conducive to health to rife early*, the word *early* is an adverb; and fo of others.

Adverbs are alfo added to nouns, and even to other adverbs, in order to modify, or afcertain their meaning; whence fome grammarians call them modifications: thus, in the phrafe, *he prayed very devoutly*, the word *devoutly* qualifies the action of prayer, and the word *very* does the fame in regard to devoutly.

Adverbs, though very numerous, may be reduced to certain claffes; the principal of which are thofe of order, of place, of time, of quantity, of quality, of manner, of affirmation, doubting, comparifon, interrogation, diminution, &c.

ADVERBIAL, fomething belonging to adverbs; thus we fay, an adverbial phrafe, number, &c. See ADVERB.

Thus, over againft, by way of, &c. are adverbial expreffions; and once, twice, thrice, &c. adverbial numbers.

ADVERSARIA, among the antients, was a book of accounts, not unlike our journals, or day-books.

ADVERSARIA is more particularly ufed, among men of letters, for a kind of common-place-book, wherein they enter whatever occurs to them worthy of notice, whether in reading or converfation, in the order in which it occurs: a method which Morhof prefers to that of digefting them under certain heads. See the article BOOK.

Adverfaria is alfo ufed for books containing various obfervations, remarks, &c. or even a commentary upon fome author or writing.

ADVERSARY denotes a perfon who is an enemy to, or oppofes another.

Adverfary, in a law fenfe, is ufed indifferently for either of the contending parties, confidered as oppofing the other.

ADVERSATIVE, in grammar, a word expreffing fome difference between what goes before and what follows it. Thus, in

in the phrase, *he loves knowledge but has no application*, the word *but* is an adversative conjunction; between which and a disjunctive one there is this difference, that the first sense may hold good without the second opposed to it, which is otherwise in regard to disjunctive conjunctions. See the article DISJUNCTIVE.

ADVERSATOR, in antiquity, a servant who attended the rich in returning from supper, to give them notice of any obstacles in the way, at which they might be apt to stumble.

ADVERTISEMENT, in a general sense, denotes any information given to persons interested in an affair.

ADVERTISEMENT is more particularly used for a brief account of an affair inserted in the daily or other public papers, for the information of all concerned, or who may find some advantage from it.

Advertisements of this kind are certainly of great use to the public. Traders, ship-masters, companies, and every man, of what rank or condition soever, find their advantage in them. Nay, as the best things are capable of being abused, even sharpers, quacks, and a long *&c.* of designing rogues make use of them to impose upon the credulous and unwary.

ADVICE, or *letter of* ADVICE, a letter missive, by which a merchant, or banker, informs his correspondent, that he has drawn a bill of exchange, that his debtors affairs are in a bad state, or that he has sent a quantity of merchandize, whereof the invoice is usually annexed. See the article INVOICE.

A letter of advice for the payment of a bill of exchange should mention the name of the person for whose account it is drawn, the day, month, and year; the sum drawn for; the name of him from whom the value is received; and the person's name to whom it is payable.

For want of such advice, it is very allowable to refuse accepting a bill of exchange.

ADULT, in a general sense, an appellation given to any thing arrived at maturity: thus we say an adult person, an adult plant, *&c.*

ADULT, among civilians, denotes a youth between fourteen and twenty-five years of age.

ADULTERATION, in a general sense, denotes the act of debasing, by an improper mixture, something that was pure and genuine. Thus, adulteration of coin, is the casting or making it of a metal inferior in goodness to the standard, by using too great a proportion of alloy. This is a crime which all nations have made capital.

ADULTERATION, in pharmacy, is the using ingredients of less virtue in medicinal compositions, to save expence; a practice with which the dealers in medicines and drugs are but too well acquainted.

ADULTERATION, among distillers, vintners, *&c.* is the debasing of brandies or wines, by mixing them with some improper liquor.

By stat. 1 W. & M. c. 34. whoever sells adulterated wine, is to forfeit three hundred pounds.

ADULTERER, denotes a man who is guilty of adultery. See ADULTERY.

ADULTERESS, a female adulterer, or woman who commits adultery.

ADULTERINE, in a general sense, denotes any thing which has been adulterated. See the article ADULTERATION.

Adulterine children, among civilians, those sprung from an adulterous amour.

Adulterine is also used for any thing that is spurious, false, or counterfeited: thus we say adulterine writings, balance, key, coins, *&c.*

ADULTERY, the crime of married persons, whether husband or wife, who, in violation of their marriage vow, have carnal commerce with another, besides those to whom their faith has been plighted.

By the law of Moses, both man and woman, who had been guilty of adultery, were put to death.

The antient Romans had no formal law against adultery; Augustus being the first who made it punishable by banishment, and in some cases by death. However, by an edict of Antoninus, a husband could not prosecute his wife for adultery, unless he was innocent himself. And by the regulations of Justinian, at the instance of his wife Theodora, the punishment of adultery in the woman was mitigated; whipping, and shutting up in a convent for two years, being deemed sufficient, during which time, if the husband did not take back his wife, she was shut up for life.

Among the Greeks, adultery was punished variously; sometimes by fine, and at others by what they called *paratilmus*: nay, the Lacedemonians are even said to have permitted it.

Adultery among European nations, is reckoned a private crime, none but the husband being suffered to intermeddle in the

the affair; and what is no less remarkable, though the husband be guilty of adultery, the wife is not allowed to prosecute him for the same.

In England, adultery is accounted a spiritual offence, and therefore the injured party can have no other redress but to bring an action of damages against the adulterer; and to divorce and strip the adultress of her dower, is all the punishment she incurs. And, indeed, it must be owned, that the laying a heavy fine upon the man, and punishing the woman in the manner just mentioned, is as likely, if not more so, to prevent the frequency of adultery, as more severe methods.

Authors have established several distinct species or kinds of this crime: thus, manifest adultery is when the parties are caught in the fact; secret adultery, when the knowledge of it is kept concealed from the world; presumptive adultery, when the parties are found in bed together; single adultery, when one of the parties is not married: and so of other cases.

Adultery is also used for any kind of unchastity; in which sense, divines understand the seventh commandment.

Adultery, in the scripture-language, is likewise used for idolatry, or the forsaking the worship of the true God for that of a false one.

ADVOCATE, *advocatus*, among the Romans, a person who undertook the defence of causes, which he pleaded much in the same manner as our barristers do at present.

Advocates were held in great honour, during the first ages of the roman commonwealth, being stiled *comites, honorati, clarissimi*, and even *patroni*.

The term advocate is still kept up in all countries where the civil law obtains. In Scotland there is a college of advocates, consisting of one hundred and eighty persons, appointed to plead in all actions before the lords of session.

In France there are two kinds of advocates, or those who plead, and those who only give their opinions, like our chamber counsellors.

Lord-Advocate, one of the officers of state in Scotland, who pleads in all causes of the crown, or wherein the king is concerned.

The lord advocate sometimes happens to be one of the lords of session; in which case, he only pleads in the king's causes.

Fiscal Advocate, *fisci advocatus*, in roman antiquity, an officer of state under the roman emperors, who pleaded in all causes wherein the *fiscus*, or private treasury, was concerned.

Consistorial Advocates, officers of the consistory at Rome, who plead in all oppositions to the disposal of benefices in that court: they are ten in number.

Advocate *of a city*, in the german polity, a magistrate appointed, in the emperor's name, to administer justice.

Advocate, among ecclesiastical writers, a person who undertakes the defence of a church, monastery, &c.

Of these there were several kinds, as elective advocates, or those chosen by the chapter, bishop, abbot, &c. nominative advocates, or those appointed by the emperor, pope, &c. military advocates, those who undertook the defence of the church rather by arms than eloquence, &c. There were also feudal advocates, supreme and subordinate advocates; and matricular advocates, or those of the mother or cathedral church.

ADVOCATION, among civilians, the act of calling another to assist us by pleading some cause.

Letters of Advocation, in the law of Scotland, a writ issued by the lords of session, advocating, or calling, a cause from an incompetent judge to themselves.

ADVOCATIONE *decimarum*, a writ which lies for claiming a fourth part of tithes, or upwards, belonging to any church.

ADVOW, in law. See Avowry.

ADVOWEE, in law, signifies the patron of a church, or he who has a right to present to a benefice.

Paramount Advowee, is used for the king, as being the highest patron.

Advowee also denotes the defender of the rights of a church; in which sense it amounts to the same with advocate. See the article Advocate.

ADVOWING, or Avowry. See the article Avowry.

ADVOWSON, in a general sense, denotes the office or employment of an advowee. See the article Advowee.

Advowson, in law, is the right of patronage, or presenting to a vacant benefice. See the article Patronage.

Advowsons are either appendant, or in gross. Appendant advowsons, are those which depend on a manor, or lands, and pass as appurtenances of the same: whereas advowson in gross, is a right of presentation

sentation subsisting by itself, belonging to a person, and not to lands.

In either case, advowsons are no less the property of the patrons than their landed estate: accordingly they may be granted away by deed or will, and are assets in the hands of executors. However, papists and jews, seized of any advowsons, are disabled from presenting: the right of presentation being in this case transferred to the chancellors of the universities, or the bishop of the diocese.

ADVOWTRY, a term used in some old law-books for adultery. See the article ADULTERY.

ADUST, among physicians, an appellation given to such humours as are become of a hot and fiery nature. Thus blood is said to be adust, when, the more subtle and volatile part being evaporated, the remainder is vapid and impure.

ADUSTION, among physicians, is used for an inflammation of the parts about the brain and its membranes, attended with hollowness of the sinciput and eyes, a pale colour, and driness of the body: in which case, the yolk of an egg, with oil of roses, applied by way of cataplasm, is recommended; as are the leaves of turnsol, the parings of a gourd, the pulp of a pompion, applied in the same manner, with oil of roses.

ADY, in botany, the name of a species of palm-tree, found in the island of St. Thomas; the fruit of which is of the size and shape of a lemon, and contains an aromatic kernel, from whence an oil is prepared that answers the end of butter in Europe.

The Portuguese call the fruit *caryoces* and *cariosse*, and esteem the kernels as a good cordial.

ADYTUM, ἄδυτον, in pagan antiquity, the most retired and secret place of their temples, into which none but the priests were allowed to enter.

The term is purely Greek, signifying inaccessible.

The adytum of the heathens answered to the sanctum sanctorum of the Jews, and was the place from whence they delivered oracles.

ADZE, a kind of ax, otherwise called addice. See the article ADDICE.

AE, Æ, among grammarians, a dipthong or double vowel, compounded of A and E.

The orthography of this diphthong is far from being fixed, the simple E frequently supplying its place. When, therefore, an article cannot be found under the Æ, the reader is to look for it under E: though the references for the most part, will be a faithful guide in cases of this nature.

ÆACEA, in grecian antiquity, solemn festivals and games celebrated at Ægina, in honour of Æacus; who, on account of his justice upon earth, was thought to have been appointed one of the judges in hell.

ÆCHMALOTARCHA, αἰχμαλωτάρχης, in jewish antiquity, the title given to the principal leader or governor of the hebrew captives residing in Chaldæa, Assyria, and the neighbouring countries.

The Jews themselves call this magistrate *Rosch-galuth*, *i. e.* chief of the captivity. Basnage assures us, that there was no æchmalotarch before the end of the second century: and Prideaux says, that the æchmalotarch, at present, is only the head of their religion, like the *episcopus Judæorum* in England, the altarch at Alexandria, and the ethnarch at Antioch.

ÆDES, in roman antiquity, besides its more ordinary signification of a house, or the internal part of a house, where the family used to eat, likewise signified an inferior kind of temple, consecrated indeed to some deity, but not by the augurs.

There were a vast number of these in antient Rome: thus we read of the *ædes fortunæ*, *ædes pacis*, *ædes Herculis*, *&c.*

ÆDILE, *ædilis*, in roman antiquity, a magistrate whose chief business was to superintend buildings of all kinds, but more especially public ones, as temples, aquæducts, bridges, *&c.*

To the ædiles likewise belonged the care of the highways, public places, weights and measures, *&c.* They also fixed the prices of provisions, took cognizance of debauches, punished lewd women, and such persons as frequented gaming-houses. The custody of the plebiscita, or orders of the people, was likewise committed to them. They had the inspection of comedies, and other pieces of wit; and were obliged to exhibit magnificent games to the people, at their own expence, whereby many of them were ruined.

At first the ædiles were only two in number, and chosen from among the common people; but these being unable to support the expence of the public shews, two more were created out of the patrician order: these last took upon themselves all the

the charges of the games, and were called *ædiles curules*, or *majores*, as the two plebeians were denominated *minores*.

Julius Cæſar, in order to eaſe theſe four, created two others, who were called *ædiles cereales*, as having the inſpection of all manner of grain committed to their care. There were alſo ædiles in the municipal cities, who had much the ſame authority as thoſe in Rome.

ÆDILITIAN *edict*, *ædilitium edictum*, among the Romans, was particularly uſed for the ædile's ſentence, allowing redreſs to the purchaſer of a beaſt or ſlave, that had been impoſed on.

ÆDITUUS, in roman antiquity, an officer belonging to temples, who had the charge of the offerings, treaſure, and ſacred utenſils.

The female deities had a woman-officer of this kind called ÆDITUA.

ÆGAGROPILA, or ÆGAGROPILUS, αιγαγροπιλος, in natural hiſtory, a ball compoſed of a ſubſtance reſembling hair, generated in the ſtomach of the chamois-goat.

It is a kind of bezoard, called *bezoar germanicum*, and is poſſeſſed of no medicinal virtue, no more than the balls of the ſame kind formed in the ſtomachs of cows, hogs, &c. See the article BEZOAR.

ÆGILOPS, Αιγιλωψ, among phyſicians, an abſceſs in the corner of the eye, next the noſe; or, according to Heiſter, a ſmall tumour cauſed by an inflammation or abſceſs, which in time, by the acrimony of its purulent matter, erodes the external ſkin, lacrymal ducts, and fat round the ball of the eye; nay, ſometimes it renders the neighbouring bones carious to a dangerous degree.

As to the method of treatment, the ſurgeon is firſt to endeavour to diſperſe the tumour, by moiſtening it ſeveral times a day with ſpirit of vitriol; but if he finds this impracticable, he is to forward the ſuppuration as much as poſſible, leſt an obſtinate fiſtula, or worſe conſequences, ſhould be the effects of too long delay. For this purpoſe, a plaſter of diachylon with the gums, or emollient cataplaſms may be uſed.

When fully ripe, the tumour is to be laid open with a lancet or ſcalpel, and the ulcer cleanſed and healed in the ordinary way. See the article ULCER.

ÆGILOPS, in botany, a genus of the *polygamia-monoecia* claſs of plants; the corolla of the hermaphrodite flower conſiſts of a bivalve glume, terminated by a double or triple ariſta or awn; the ſeed is ſingle and oblong; the corolla of the male flower is alſo a bivalve ariſtated glume, as in the hermaphrodite flower.

ÆGINETIA, in botany, a genus of the didynamia angioſpermia claſs of plants, the flower of which conſiſts of one leaf, large, round, and inflated at the baſe; the tube is ſhort and cylindric; and the mouth ſmall, but expanded and turning back at the edges.

EGIPAN, in heathen mythology, a denomination given to the god Pan, by reaſon he was repreſented with the horns, legs, feet, &c. of a goat.

Egipan is alſo the name of certain monſters, the upper part of whoſe bodies reſembled a goat, and their lower part a fiſh's tail.

ÆGIS, in heathen mythology, is particularly uſed for the ſhield or cuiraſs of Jupiter and Pallas.

Ægis is derived from αιξ, αιγος, a ſhe-goat; Jupiter having covered his ſhield with the ſkin of Amalthea, the goat that ſuckled him. Afterwards making a preſent of the buckler to Minerva, this goddeſs fixed the head of Meduſa on the middle of it, which, by that means, became capable of turning all thoſe into ſtone who looked at it.

ÆGOPODIUM, GOUT-WEED, in botany, a genus of the *pentandria digynia* claſs of plants; the general corolla whereof is uniform; the ſingle flowers conſiſt each of five, oval, concave, and nearly equal petals; the fruit is naked, ovato-oblong, ſtriated, and ſeparable into two parts; the ſeeds are two, ovato-oblong and ſtriated, convex on one ſide, and plain on the other.

ÆGYPTIACUM, in pharmacy, the name of ſeveral detergent ointments, uſed for eating off rotten fleſh, and cleanſing foul ulcers.

The ægyptiacum, as ordered in the Edinburgh diſpenſatory, is a compoſition of verdigreaſe, reduced to fine powder, five ounces; of honey, fourteen ounces; of vinegar, ſeven ounces: all which are to be boiled over a gentle fire, to the conſiſtence of an unguent.

It is an admirable cleanſer, and much recommended by ſurgeons to keep down fungous excreſcences, and eat off raw fleſh; only that the ægyptiacum of the London diſpenſatory is thought to be too corroſive.

ÆLURUS, in egyptian mythology, the deity or god of cats; repreſented ſome-

times like a cat, and at others, like a man with a cat's head.

ÆNIGMA, αἴνιγμα, denotes any dark saying or question, wherein some well-known thing is concealed under obscure language. The parable, gryphus, and rebus are by some accounted three species, or branches, of ænigma. See the articles PARABLE, GRYPHUS, and REBUS.

To compose an ænigma, two things are to be chosen which bear some resemblance to each other, as the sun and a monarch, a ship and a house, a bed and the grave, &c. on which some perplexing and intricate question, description, or prosopopæia is to be made. This last is most pleasing, in as much as it gives life and action to things void of them: such is that famous one of the chemists, called the Sybelline Ænigma, and supposed by some to signify the name Jehovah, by others the word phosphorus, but by the generality the word arsenic, Αρσενικον.

Ἐννέα γράμματ' ἔχω, τετρασύλλαβός εἰμι, νόει με.
Αἱ τρεῖς αἱ πρῶται δυὸ γράμματ' ἔχουσιν ἑκάστη,
Ἡ λοιπὴ δὲ τὰ λοιπά, καὶ εἰσὶν ἄφωνα τὰ πέντε.
Τοῦ παντὸς δ' ἀριθμοῦ ἑκατοντάδες εἰσὶ δὶς ἑπτά,
Καὶ τρεῖς τρὶς δεκάδες καὶ δὶς τρία. Γνοὺς δὲ τίς εἰμι,
Οὐκ ἀμύητος ἔσῃ τῆς παρ' ἐμοῦ σοφίης.

Thus translated by Mr. Leibnitz.

Literulis noscor, quadrisyllabus ipse, novenis:
Syllaba habet binas, nisi quod tenet ultima ternas:
Vocales quatuor, quinis non propria vox est.
Bis septem vicibus numerum centuria totum.
Ingreditur, decadesque novem, tum bis tria. Si me
Noveris, hinc aditus ad sacra nostra patent.

Painted ænigmas are representations of some objects, whether of nature or art, concealed under the human figure. See the next article.

F. Meneftrier has attempted to reduce the composition and resolution of Ænigma's to a kind of art, with fixed rules, and principles, which he calls the philosophy of ænigmatic images.

ÆNIGMATICAL, denotes something belonging to, or partaking of the nature of an ænigma. See the last article.

The antient sages in general affected an ænigmatical way of writing, to conceal their doctrines from the populace. The Romans in Nero's time were obliged to have recourse to the like method, though for different reasons. The ænigmatical characters of the Egyptians were a species of hieroglyphics, consisting of such as bore no natural resemblance to the things they represented. Such was the beetle, used to express the sun; the serpent, to represent the stars.—Among the divers species of revelation, enumerated by divines, there is one called the ænigmatical. Vander Hard maintains at large, that the whole book of Jonah is ænigmatical, particularly, that by the prophet himself, is to be understood the jewish nation; by his being cast into the sea in a storm, and swallowed by a whale, the Jews being carried into captivity; by his prayer in the fish's belly, the Jewish exiles supplications in their captivity; by the fish's vomiting him up, their return into their own country, &c.

ÆOLIC, in a general sense, denotes something belonging to Æolia, or Æolis.

Æolic dialect, among grammarians, one of the five dialects of the greek tongue, agreeing in most things with the doric dialect. See the article DORIC.

Æolic verse, in prosody, a kind of verse, consisting of an iambus, or spondee, then of two anapests, separated by a long syllable, and lastly, of another syllable. Such is,

O stelliferi conditor orbis,

ÆOLIPILE, *æolipila*, a hollow metalline ball, in which is inserted a slender neck, or pipe; from whence, after the vessel has been partly filled with water, and heated, issues a blast of wind with great vehemence.

Great care should be taken that the aperture of the pipe be not stopped when the instrument is put on the fire, otherwise the æolipile will burst with a vast explosion, and may occasion no little mischief. As to the phænomena of the æolipile, they may be accounted for from the rarefaction of the water. See RAREFACTION.

Dr. Plot gives an instance where the æolipile is actually used to blow the fire: the lord of the manor of Essington, is bound by his tenure to drive a goose every New-year's-day three times round the hall of the lord of Hilton, while Jack of Hilton (a brazen figure having the structure of an æolipile) blows the fire. In Italy it is said, that the æolipile is commonly made use of to cure smoaky chimneys: for being hung over the fire, the blast arising from it carries up the loitering smoak along with it.

F. Mersennus, and some others, have made use of this machine, to measure the gravity and degree of rarefaction of the air.

air. But this method is liable to considerable objections.

ÆOLIS, in antient geography, a country lying upon the western coast of Asia Minor.

ÆOLUS, in the heathen theology, the god of the winds, painted with swoln blubber cheeks, like one who with main force endeavours to blow a blast; also with two small wings upon his shoulders, and a fiery high-coloured countenance.

ÆON, αιων, properly signifies the age or duration of any thing. See DURATION.

ÆON, among the Platonists, was used to denote any virtue, attribute, or perfection: hence they represented the deity as an assemblage of all possible æons, calling it pleroma, πληρωμα, a greek word signifying fullness.

For a farther account of æons, as received among some heretic christians. See the article VALENTINIANS.

ÆORA, among antient physicians, a peculiar kind of exercise, which consisted in being carried about in a litter or other vehicle. Sometimes the patient's bed was hung by ropes, in the manner of a hammoc, and moved backwards and forwards. Travelling in a chariot, or on board a ship or boat, were also accounted so many kinds of æora.

ÆQUATION,	See	EQUATION.
ÆQUATOR,		EQUATOR.
ÆQUILIBRIUM,		EQUILIBRIUM.
ÆQUINOCTIAL,		EQUINOCTIAL.
ÆQUIPOLLENCE,		EQUIPOLLENCE
ÆQUIVALENT,		EQUIVALENT.
ÆQUIVOCAL,		EQUIVOCAL.
ÆQUIVOCATION		EQUIVOCATION

ÆRA, in chronology, a series of years, commencing from a certain fixed point of time, called an epocha: thus, we say the christian æra, that is, the number of years elapsed since the birth of Christ.

The generality of authors, however, use the terms æra and epocha in a synonymous sense, or for the point of time from which the computation commences; making no other difference between them, except that the former is chiefly used by the vulgar, and the latter by chronologers.

Spanish ÆRA, a method of computing time among the antient Spaniards, commencing from the second division of the roman provinces between Augustus, Anthony, and Lepidus, in the year of Rome 714, and the 4676th year of the Julian period, and 38th before Christ. Hence, if to any year of the spanish æra we add 4675, the sum will be the Julian year; or, if from the same year we substract 38, the remainder will be the year of the christian æra.

By this æra the Spaniards computed their time for about fourteen hundred years, when it was changed for the common christian æra.

Christian ÆRA denotes the number of years elapsed since the birth of Christ; a method of computation first introduced in the sixth century, and not received in Spain till towards the end of the fourteenth. See the article EPOCHA.

ÆRA *of Nabonassar*. See NABONASSAR.

ÆRA *of the Hegira*. See HEGIRA.

ÆRARIUM, in roman antiquity, the treasury, or place where the public money was deposited.

Ærarium and fiscus are sometimes used in a synonymous sense, though the latter, strictly speaking, contained only the money belonging to the emperor.

Ærarium sanctius was an appendage added to the former, for containing the monies arising from the twentieth part of all legacies, which was kept for the extreme necessities of the state.

Ærarium privatum was the emperor's privy purse, or place where the monies arising from his private patrimony were deposited.

ÆRARIUM *Ilithiæ*, or *Junonis Lucinæ*, one where the monies were deposited, which parents paid for the birth of each child.

There are several other treasuries mentioned in historians, as the *ærarium juventutis*, *veneris*, &c.

ÆRARIUS, in a general sense, denotes any person employed in coining, or managing the public monies. See the article ÆRARIUM.

Ærarius was more particularly used by the Romans for a degraded citizen, whose name had been struck off the list of his century.

The *ærarii* were so called on account of their being liable to all the taxes and other burdens of the state, without enjoying any of its privileges. Hence, *inter ærarios referri* was a great deal more severe punishment than *tribu moveri*.

AERIAL, in a general sense, denotes something partaking of the nature of air: thus we say, an aërial substance, aërial particles, &c.

Aërial is also used for any thing connected with, or belonging to air; in which sense we say aërial inhabitants, aërial perspective, aërial regions, &c. See the articles PERSPECTIVE and REGION.

AERIANS, *aëriani*, in church-hiftory, a branch of arians, who to the doctrines of that fect added fome peculiar dogmas of their own; as, that there is no difference between bifhops and priefts; a doctrine maintained by many modern divines, particularly of the prefbyterian and other reformed churches. See PRESBYTERIANS.

ÆRICA, or ERICA, the name by which fome call the common herring. See the article HERRING.

AEROGRAPHY fignifies a defcription of the air, efpecially of its dimenfions, and other moft obvious properties; in which fenfe it differs but little from

AEROLOGY, which is a fcientifical account of the nature and lefs obvious properties of air. See AIR and ATMOSPHERE.

AEROMANCY, *aëromantia*, a fpecies of divination performed by means of air, winds, &c.

Aëromancy is alfo ufed for the art of foretelling the various changes of the air and weather, by means of barometers, hygrometers, &c. See BAROMETER, &c.

AEROMETRY, *aerometria*, the art of meafuring the motion, gravity, elafticity, rarefaction, condenfation, &c. of air; in which fenfe, aërometry is fynonymous with pneumatics, a term in more common ufe. See the article PNEUMATICS.

AEROPHYLACEA, a term ufed by fome naturalifts for certain caverns or refervoirs of air, fuppofed to exift in the bowels of the earth, by means of which they account for the origin of fprings.

AEROSTATICA, that branch of aërometry which confiders the weight and ballance of the air and atmofphere.

AERSCHOT, a town of the dutch netherlands, fituated in Brabant, about fifteen miles eaftward of Mechlin.

ÆRUGINOUS, an epithet given to fuch things as refemble, or partake of the nature of the ruft of copper. Thus, an æruginous colour is green, or that of verdegris.

The term æruginous is frequently applied for the green ftuff caft up by vomit in bilious cafes.

ÆRUGO, in natural hiftory, properly fignifies the ruft of copper, otherwife called *viride æris*.

Ærugo is either natural, as that found about copper-mines; or artificial, like verdegris. See the article VERDEGRIS.

ÆRUSCATORES, in antiquity, a kind of ftrolling beggars, not unlike gypfies, who drew money from the credulous by fortune-telling, and playing of tricks. The priefts of Cybele were called *æruscatores magnæ matris*, on account of their begging in the ftreets.

Ærufcatores was alfo a denomination given to griping exactors, or collectors of the revenue.

ÆS properly fignifies copper, or money coined of that metal. See the articles COPPER and MONEY.

Authors fpeak of *æs rude*, *æs grave*, and *æs fignatum*. Some will have the two former to denote the fame thing, *viz.* money paid by weight and not by tale, as the *æs fignatum*, or coined money, was. Others, again, will have the *æs grave* to have been large pieces of coined copper, containing a whole *as*, or pound weight. Kufter, on the other hand, thinks that *æs grave* was ufed to denote any kind of copper-money, in oppofition to that made of gold or filver, which was light.

ÆS *flavum*, yellow copper, among the Romans, an appellation given to the coarfer kinds of brafs, the fineft being called *orichalcum*. See the articles BRASS and ORICHALCUM.

Flos ÆRIS, χαλκȣ ανθος, among antient alchemifts, a kind of fmall fcales procured from melted copper, by expofing it in a vehement heat: but among the moderns it is fometimes ufed for *ærugo* or verdegris.

ÆS *uftum*, among chemifts, a preparation of copper, otherwife called *æs veneris*, *æs crematum*, &c.

There are feveral ways of making it, but the moft frequent is, by expofing plates of copper in a reverberatory furnace till they will crumble into a powder, which is called *æs uftum*.

Æs uftum is extremely drying and detergive, and therefore ufed for eating off dead flefh, and cleanfing foul ulcers; and is either fprinkled on the part in fine powder, or mixed in ointments.

Æs uftum is alfo ufed for colouring glafs.

ÆSCHYNOMENE, in botany, a genus of the *diadelphia decandria* clafs of plants; the corolla whereof is papilionaceous; the fruit confifts of a long compreffo-plane, articulated, unilocular pod, containing a fingle kidney fhaped feed.

ÆSNECY, in law-books, a term ufed to denote the priority of age among coparceners. See the article COPARCENERS.

ÆSTIMATIO CAPITIS, a term met with in old law-books, for a fine antiently ordained to be paid for offences committed againft perfons of quality, according to their feveral degrees.

ÆSTIVAL, in a general ſenſe, denotes ſomething connected with, or belonging to ſummer. Hence, we ſay æſtival point, æſtival ſign, æſtival ſolſtice, *&c.* See the articles POINT, SIGN, SOLSTICE, *&c.*

ÆSTUARIA, *æſtuarium*, in geography, denotes an arm of the ſea, which runs a good way within land. Such is the Briſtol channel, and many of the friths of Scotland.

ÆSTUARIES, in the antient baths, were ſecret paſſages from the hypocauſtum, into the chambers. See the articles BATH and HYPOCAUSTUM.

ÆSTUARY, among phyſicians, denotes a vapour-bath, or any other inſtrument for conveying heat to the whole, or a particular part of the body.

ÆTATE *probanda*, in law, a writ which formerly lay to inquire whether the king's tenant was of full age; but now diſuſed, ſince the aboliſhing of wards and liveries.

ÆTH, or ATH, a ſtrong little town in the auſtrian netherlands, and province of Hainault, ſituated on the river Dender, about twenty miles S. W. of Bruſſels.

ÆTHER, Αἰθὴρ, in phyſiology, a term uſed by philoſophers for the moſt ſubtile of all fluids, which, commencing from the limits of our atmoſphere, occupies the vaſt expanſe of heaven; or, it is that inconceivable fine fluid, which fills the intermediate ſpace between one fixed ſtar and another, as well as between the planets of our ſolar ſyſtem.

Though the exiſtence of ſuch a fluid be generally allowed, yet authors differ widely with reſpect to its nature; ſome making it a finer kind of air, others a kind of fiery effluvia from the ſun and fiery ſtars; and others, a fluid *ſui generis.*

Æther is ſuppoſed by ſome philoſophers not only to fill up the intermediate ſpace between the heavenly bodies, but to permeate all bodies whatever; alſo to be the medium of light, that vaſt fluid in which the air is only a tincture; and, laſtly, that it is the cauſe of gravity in the earth and other celeſtial bodies, aſſiſted in the action of burning, and in the diſſolution of other bodies by menſtruums.

After all, there are not wanting ſome who make it a queſtion, whether there be any ſuch fluid as æther at all.

ÆTHER, in chemiſtry, a name ſometimes uſed for any extremely volatile and ſubtile ſpirit, as the *ſpiritus ætherius frobenii.* See the article SPIRIT.

Æther is more particularly uſed for an extremely penetrating ſpirit, made by diſtilling ſpirit of wine with oil of vitriol, and then precipitating the ſulphureous gas with an alcali.

ÆTHERIAL, in a general ſenſe, denotes ſomething belonging to, or partaking of, the nature of æther. See ÆTHER.

ÆTHERIAL *oil*, among chemiſts, a ſubtile eſſential oil, approaching to the nature of a ſpirit. See the article OIL.

Ætherial phoſphorus, a name given by ſome to the mercurial phoſphorus. See the article PHOSPHORUS.

ÆTHIOPS, or ÆTHIOPS MINERAL, a preparation of mercury, made by rubbing in a marble or glaſs mortar, equal quantities of quickſilver and flowers of ſulphur, till the mercury wholly diſappears, and there remains a fine deep black powder, from whence it has got the name of æthiops.

This is eſteemed one of the ſafeſt preparations of mercury, and is much uſed againſt cutaneous foulneſſes, in ſcrophulous caſes, in remains of venereal diſorders, and even in the gout and rheumatiſm. In ſcorbutic caſes, ſcarce any medicine exceeds it; and it has been long known as a remedy againſt worms. Its doſe is from a ſcruple to a dram or two.

ÆTHIOPS *albus*, a preparation of mercury, which is made by rubbing quickſilver with a double quantity of crabs eyes, or ſugar-candy, till it is extinguiſhed.

ÆTHIOPS *of Dr. Plummer*, a medicine prepared by levigating ſulphur auratum antimonii with an equal quantity of calomel: it is ſaid to be good in venereal and cutaneous diſorders.

ÆTIOLOGY, that branch of phyſic which aſſigns the cauſes of diſeaſes.

ÆTIOLOGY, in rhetoric, is deemed a figure of ſpeech, whereby, in relating an event, we, at the ſame time, unfold the cauſes of it.

ÆTITÆ, or ÆTITES, in natural hiſtory, a name given to pebbles or ſtones of any kind, which have a looſe nucleus rattling within them, and are called in engliſh, the eagle-ſtone.

So far from being a particular genus of foſſils themſelves, we find ætitæ among very different genuſes, as the geodes, heteropyræ, *&c.* but the moſt valued of all others, is that formed of the ſeveral varieties of our common pebbles. See the article GEODES, *&c.*

As to the formation of ætitæ, naturaliſts account for it from this conſideration, that as the nuclei are coarſer and more debaſed by earth than the reſt of the pebble, they

they muſt ſhrink up and contract themſelves into a ſmaller ſize; by which means, it will be ſeparated from the ſurrounding cruſt, and thereby become looſe. See plate VII. fig. 3.

Many imaginary virtues have been aſcribed to theſe ſtones, as, that they aſſiſt women in labour, diſcover thieves, *&c.* than which nothing can be more ridiculous.

ÆTNA, a famous burning mountain, or volcano of Sicily. It is one of the higheſt mountains of the whole iſland, and ſituated on the eaſtern coaſt, not far from Catania.

AFFECTIO *bovina*, a diſorder incident to cattle, occaſioned by a ſmall worm, which eats its way all over the body.

AFFECTION, in a general ſenſe, denotes an attribute inſeparable from its ſubject, or an eſſential property of it. Thus, quantity, figure, weight, *&c.* are affections of all bodies.

AFFECTIONS *of the mind* are the ſame with paſſions or inclinations. See the article PASSION.

AFFECTION, in geometry, a term formerly uſed to denote the property of any curve.

AFFECTION, in medicine, a term uſed for any diſorder with which a limb or other part of the body is afflicted. Thus, we ſay, the hypochondriacal, or hyſterical affection, *&c.* See the articles HYPOCHONDRIAC PASSION, and HYSTERICS.

AFFEERERS, or AFFEERORS, in law, perſons appointed in court-leets, courts-baron, *&c.* to ſettle, upon oath, the fines to be impoſed upon thoſe who have been guilty of faults arbitrarily puniſhable; that is, ſuch as have no expreſs penalty aſſigned by ſtatute.

AFFETTUOSO, or *con* AFFETTO, in the italian muſic, intimates that the part, to which it is added, ought to be played in a tender moving way; and, conſequently, rather ſlow than faſt.

AFFIANCE, in law, denotes the mutual plighting of troth, between a man and a woman, to marry each other.

AFFIDATIO DOMINORUM, in old law-books, denotes an oath of allegiance, taken by the lords in parliament.

AFFIDATUS, or AFFIDIATUS, in old law-books, ſignifies a tenant by fealty; or one who put himſelf under the protection of his lord, vowing fealty to him.

AFFIDAVIT ſignifies an oath in writing, ſworn before ſome perſon who is authoriſed to take the ſame.

In an affidavit, the time, place of habitation, and addition of the perſon who makes it, are to be inſerted.

Affidavits are chiefly uſed to certify the ſerving of proceſſes or other matters concerning the proceedings in a court; and therefore ſhould ſet forth the matter of fact to be proved, without taking any notice of the merits of the cauſe. They are read in court upon motions, but are not admitted in evidence at trials.

By ſtatute, the judges of the courts at Weſtminſter may commiſſion perſons, in the ſeveral counties in England, to take affidavits relating to any thing depending in their ſeveral courts.

AFFINITY, *affinitas*, among civilians, denotes the relation of each of the parties married to the kindred of the other.

Affinity is diſtinguiſhed into three kinds. 1. Direct affinity, or that ſubſiſting between the huſband, and his wife's relations by blood; or, between the wife, and her huſband's relations, by blood. 2. Secondary affinity, or that which ſubſiſts between the huſband, and his wife's relations by marriage. 3. Collateral affinity, or that which ſubſiſts between the huſband, and the relations of his wife's relations.

The degrees of affinity are always the ſame with thoſe of conſanguinity. Hence, in whatever degree of conſanguinity the kindred of one of the parties married are, they are in the ſame degree of affinity to the other.

By the canon law, direct affinity renders marriage unlawful to the fourth generation, incluſive; but the caſe is otherwiſe with reſpect to the ſecondary and collateral kinds. It is likewiſe to be obſerved, that the affinity contracted by a criminal commerce, is an impediment to marriage ſo far as the ſecond generation: thus, a man is not allowed to marry the ſiſter of a woman he has lain with. Nay, with regard to contracting marriage, affinity is not diſſolved by death: for, though a woman may be admitted a witneſs for the brother of her deceaſed huſband, ſhe is not allowed to marry him.

In the romiſh church, a kind of ſpiritual affinity is ſuppoſed to be contracted by baptiſm; ſo that it is not deemed lawful for a god-father to marry his god-daughter, without a diſpenſation.

AFFINITY is alſo uſed to denote a conformity,

mity, or agreement, between two or more things: thus, we ſay, the affinity of languages, the affinity of words, the affinity of ſounds, *&c.*

FFIRMATION, among logicians, is the act of the mind aſſerting the truth or reality of ſomething; or it is a poſitive propoſition, declaring certain properties or qualities to belong to the thing in queſtion: thus, when I ſay, *every circle is a perfectly round figure*, I affirm perfect roundneſs to be an inſeparable property of a circle.

AFFIRMATION is alſo uſed for the ratifying or confirming the ſentence, or decree, of ſome inferior court: thus, we ſay, the houſe of lords on an appeal affirmed the decree of the lord chancellor, or the decree of the lords of ſeſſion.

AFFIRMATION alſo denotes a ſolemn atteſtation of the truth of ſome fact, which the quakers are allowed to make inſtead of an oath.

This ſect think all kinds of ſwearing unlawful; and therefore the legiſlature has appointed the following affirmation to be taken inſtead thereof, *viz. I A. B. do ſincerely, ſolemnly, and truly declare and affirm, &c.* This affirmation is, by ſtatute, put upon the ſame footing with an oath; every perſon convicted of affirming a falſhood, being liable to the penalties provided againſt wilful and corrupt perjury. It is alſo deemed equivalent to an oath, except in criminal caſes, upon juries, and in places of profit and truſt under the government.

AFFIRMATION, among ſome grammarians, denotes a part of ſpeech generally called a verb. See the article VERB.

AFFIRMATIVE, in a general ſenſe, denotes any thing which implies an affirmation. See the article AFFIRMATION.

AFFIRMATIVE, in the roman inquiſition, a deſignation given to ſuch heretics as openly avow the opinions they are charged withal.

AFFIRMATIVE *character.* See the article CHARACTER.

AFFIRMATIVE *propoſition.* See the article PROPOSITION.

AFFIRMATIVE *quantity.* See QUANTITY.

AFFIRMATIVE *ſign.* See SIGN.

AFFIX, among grammarians, a particle added at the beginning of a word, either to diverſify its form, or alter its ſignification.

In the hebrew language, there are a multitude of affixes, i. e. ſingle letters or ſyllables, which, being prefixed to nouns and verbs, ſerve inſtead of pronouns, and contribute greatly to the brevity of that language.

AFFLATUS, among heathen mythologiſts and poets, denotes the actual inſpiration of ſome divinity: thus, Virgil,

afflata eſt numine quando
Jam propriore Dei.

Tully, however, muſt be underſtood to extend the meaning of the word farther, when he attributes all great actions to a divine *afflatus.* See INSPIRATION.

AFFORAGE, in the french cuſtoms, a duty paid to the lord of a diſtrict, for permiſſion to ſell wine, or other liquors, within his ſeigniory.

Afforage is alſo uſed for the rate or price of proviſions, laid and fixed by the provoſt of Paris, or by the ſheriffs.

AFFORESTING, *afforeſtatio*, in our old law-books, is the turning lands into a foreſt, as the converting a foreſt to other uſes, is called *diſafforeſting*, or *deafforeſting.*

AFFRAY, or AFFRAYMENT, in law, formerly ſignified the crime of affrighting other perſons, by appearing in unuſual armour, brandiſhing a weapon, *&c.* But, at preſent, affray denotes a ſkirmiſh or fighting between two or more: and there muſt be a ſtroke given, otherwiſe it is no affray.

An affray is a common injury, puniſhable by the juſtices of the peace in their ſeſſions, by fine and impriſonment, and, accordingly, differs from aſſault, which is a private offence.

A conſtable may ſeize, and carry affrayers before a juſtice; as may likewiſe any private perſon.

AFFRONTE'E, in heraldry, an appellation given to animals facing one another on an eſcutcheon, a kind of bearing, which is otherwiſe called *confrontée*, and ſtands oppoſed to *adoſſée.*

AFRICA, in geography, a vaſt peninſula, which makes one of the four grand diviſions, or quarters of the world, as they are commonly, though falſely called. It is joined to Aſia by the iſthmus of Suez, reaches about four thouſand two hundred miles in breadth from eaſt to weſt, and is ſituated between 37° north latitude, and 35° ſouth latitude. The Mediterranean ſea bounds it on the north, the iſthmus of Suez, the red-ſea, and the eaſtern ocean, on the eaſt; the ſouthern ocean on the ſouth; and the atlantic, or weſtern ocean on the weſt.

Geographers

Geographers divide Africa into ten grand divisions: 1. Egypt. 2. Abyssinia, or the upper Ethiopia. 3. The coast of Anian and Zanguebar. 4. Monoemugi, Monomotapa, and Caffraria, sometimes called the lower Ethiopia. 5. Congo, Angola, and Guinea. 6. Nigritia, or Negroland. 7. Zaara, or the desert. 8. Biledulgerid, the antient Numidia. 9. The empire of Morocco. 10. The coast of Barbary, on the Mediterranean, comprehending the countries of Algiers, Tunis, Tripoly, and Barca. See the article EGYPT, &c.

The principal commodities are gold, ambergrease, elephants teeth, guinea-pepper, red-wood, hides, wax, saunders, sugar, civet, oil, cardamums, hemp, flax, dates, almonds, indigo, gum, ostrich-feathers, amber, ebony, canes, citrons, lemons, copper, cocoa-nuts, cloves, saffron, crystal, and a multitude of negroes, that supply our american plantations with slaves.

Africa is represented in painting, by a black woman almost naked, with frizzled hair, an elephant's trunk for a crest, a fierce lion on one side, and a viper and serpent on the other; with other emblems of the produce of the country.

AFRICA is also a considerable sea-port town of Barbary, about seventy miles south of Tunis.

AFRICAN *company*, a society of merchants established by king Charles II. for trading to Africa; which trade is now laid open to all his majesty's subjects, paying ten per cent. for maintaining the forts.

AFSAGERS, persons appointed by the burgo-masters of Amsterdam, to preside over the public sales made in that city. They must always have a clerk of the secretaries office, with them, to take an account of the sale.

AFT, in the sea language, the same with abaft. See the article ABAFT.

AFTER-*birth*, in midwifery, the membranes which surrounded the infant in the womb, more usually called the secundines. See the articles DELIVERY and SECUNDINES.

In brutes this is called the heam, or cleaning.

AFTER-*math*, in husbandry, signifies the grass which springs or grows up after mowing; or the grass, or stubble, cut after corn.

AFTER-*noon*, denotes one half of the natural day, or the space of time between noon and night.

The antient Romans dedicated their afternoons to diversion, as their forenoons to business. The former were reserved for pleasure, and the enjoyment of life. But though it was the rule not to take any part of the afternoon for business, nor any of the forenoon for pleasure, yet some few of the more laborious magistrates made it a custom to continue their occupation to the tenth hour, answering to our four o'clock, as is related of Asinius Polio; but after that time, he would not so much as open a letter, from whatever quarter it came.

AFTER-*pains*, in midwifery, excessive pains felt in the groin, loins, &c. after the woman is delivered. See DELIVERY.

In order to guard against them, physicians recommend oil of sweet almonds, sperma ceti, troches of myrrh and syrup of maiden-hair; and, generally, with success.

AFTER-*swarms*, in the management of bees, are those which leave the hive some time after the first has swarmed.

Butler tells us, that the after-swarms differ from the prime, in that the latter are directed by the vulgar, or crowd of bees, whose only rule is the fulness of the hive; whereas the former are appointed by the ruling bees, and indicated by a noise, or call, which these make for the space of two or three days, as it were to give warning to the common herd to prepare for a march. Within eight or ten days after the prime-swarm is gone, if the princess next in order find a competent number fledged and ready, she begins to tune her treble voice, in a mournful and begging note, as if she prayed the queen-mother to let them go; to which voice, if she vouchsafe a reply, by tuning her bass to the other's treble, it marks her consent: in consequence of which, within a day or two after, if the weather allow, the new swarm appears. If the prime swarm be broken, the after will both call and swarm the sooner, perhaps the next day; in which a third, sometimes a fourth, succeeds in the same season; but all usually within a fortnight after the prime-swarm. See BEE.

AGA, in the turkish language, signifies a great lord, or commander. Hence, the aga of the janizaries is the commander in chief of that corps; as the general of the horse is denominated spahiclar aga. See JANIZARIES and SPAHI's.

Instead of aga, the term agassi, or agasi, is not unfrequently met with; as the capi-agassi, *i. e.* the chief of the pages, &c.

AGANIPPIDES, in antient poetry, a designation

-ignation given to the muses, from a fountain of mount Helicon, called Aganippe.

AGAPÆ, or AGAPES, in church-history, certain love-feasts kept by the antient christians, as a token of brotherly charity and mutual benevolence.

However innocent the original intention of these festivals might have been, abuses in time got footing in them, and gave great occasion for scandal; so that it became necessary to forbid the kiss of charity between persons of different sexes, as well as to have any beds or couches in the place where they assembled.

AGAPETÆ, in church-history, a kind of nuns among the primitive christians, who attended on, and served the clergy.

At first there was nothing scandalous in these societies, though they gave great offence afterwards, and were wholly abolished by the council of Lateran, in 1139.

AGARIC, *agaricus*, in botany, a genus of the cryptogamia algæ class of plants, growing on the trunks of trees, especially the larch-tree, and resembling the common mushroom, both in substance and structure. See plate VII. fig. 4.

Agaric is a fungus, of an irregular figure, three or four inches in length, and as many in breadth and thickness. It is extremely soft and elastic, taking an impression from the least touch, and resuming its former figure again: its colour, on the out-side, is a pale yellowish white, but a pure white within.

It was much used by the antients, as a purge; but the present practice condemns it, as being not only disagreeable, but unsafe and pernicious.

Female AGARIC, the agaricus pedis equini facie of Tournefort, called from its being very easily inflammable, touchwood or spunk, is a fungus frequently met with on different kinds of trees in England, and has been sometimes brought into the shops mixed with the true agaric of the larch. From this it is easily distinguishable, by its greater weight, dusky colour, and mucilaginous taste, void of bitterness. The medullary part of this fungus, beat soft, and applied externally, has been of late greatly celebrated as a styptic, and said to restrain not only venal, but arterial hæmorrhages, without the use of ligatures. See the articles STYPTIC and HÆMORRHAGE.

Mineral AGARIC, in natural history, a light marley earth, so called on account of its resemblance to the vegetable agaric, in its colour and spongy texture.

It never constitutes a stratum of itself, but is found in cracks and fissures of rocks, roofs of caverns, and sometimes in the horizontal vacuities of these strata, in form of a white porous powder.

Mineral agaric is a good astringent, and therefore prescribed in fluxes, hæmorrhages, to dry old ulcers, stop defluxions of the eyes, &c.

AGAT, *achates*, in natural history, a genus of semipellucid gems, variegated with veins and clouds, but without zones, like the onyx.

Agats are formed of a crystalline substance, variously debased with earths of different colours, to which is to be attributed the variety of their appearance. Thus, some have a white ground, as the *dendrachates* or mocoa-stone, the *phassachates*, and another species. Others have a reddish ground, as the *hæmachates*, *sardachates*, *corallo-achates*, &c. Others, again, a yellowish ground, as the *cerachates* and *leontesceres*. And, lastly, some have a greenish ground, as the *jaspachates*. A more particular account of all which may be seen under their several articles DENDRACHATES, PHASSACHATES, HÆMACHATES, &c.

Agats have got peculiar denominations according to the different figures represented on them, their affinity to other gems, and the substance they most resemble in colour. Hence, the *dendrachates*, *sardachates*, *hæmachates*, &c.

AGAT is also the name of an instrument used by the gold wire-drawers; so called from the agat in the middle of it, which forms its principal part.

AGATTON, a town of Africa, on the coast of Guinea, situated near the mouth of the river Formosa, about eighty miles south of Benin.

AGAVE, the *aloe*, in botany. See ALOE.

AGDE, a small, but well inhabited city of France, in the province of Languedoc, near the mouth of the river Eraut, about thirty miles south-west of Montpelier. It is the see of a bishop.

AGE, in a general sense, denotes a certain portion, or part of duration, applied to the existence of particular objects: thus we say, the age of the world, the age of Rome, &c. that is, the time, or number of years, elapsed since the creation of the world, or the building of Rome. Thus, also a man's age is the time he has lived, or the number of years elapsed since his birth; and so in other instances, as the age of a house, the age of a tree, &c.

AGE, in horsemanship, makes a considerable

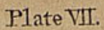


Fig. 1. ADIANTUM, or *MAIDEN-HAIR*.

Fig. 2. ADMIRAL-*SHELLS*.

A

B

Fig. 3. ÆTITES.

Fig. 4. AGARIC.

Fig. 5. AGERATUM.

T. Jefferys sculp.


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SEVILLA

sable point of knowledge; the horse being an animal that remarkably shews the progress of his years, by correspondent alterations in his body.

We have characteristics from his teeth, hoofs, coat, tail, and eyes.

1. The first year he has only small grinders and gatherers, of a brightish colour, which are called foal's teeth. The second year he changes his four foremost teeth, *viz.* two above, and two below, and they appear browner and bigger than the rest. The third year he changes the teeth next these, leaving no apparent foal's teeth before, but two above, and two below, on each side, which are all bright and small. The fourth year, he changes the teeth next these, and leaves no more foal's teeth before, but one above and below on each side. The fifth year his foremost teeth are all changed, and the tushes on each side are complete; and those which succeed the last foal's teeth are hollow, with a small black speck in the middle, which is called the mark in a horse's mouth, and continues till he is eight years old. The sixth year there appear new tushes, near which is visible some young flesh, at the bottom of the tush; the tushes being white, small, short, and sharp. The seventh year his teeth are at their full growth, and the mark in his mouth appears very plain. At eight all his teeth are full, plain, and smooth, and the black mark but just discernable; the tushes looking more yellow than ordinary. The ninth his foremost teeth shew longer, broader, yellower, and fouler than before, the mark quite disappearing, and the tushes bluntish. At ten no holes are felt on the inside of the upper tushes, which, till then, are easily felt. At eleven his teeth are very long, yellow, black, and foul, and stand directly opposite each other. At twelve the teeth of his upper jaw hang over those of his under. At thirteen his tushes are worn almost close to his chaps, if he has been much ridden; otherwise they will be long, black, and foul.

2. With regard to the hoof. If it be smooth, moist, hollow, and well sounding, it is a sign of youth; but if, on the contrary, it be rugged, and as it were, covered with seams one above another, and withal dry, foul, and crusty, it is a sign of old age.

3. If a joint about the stern of the tail, near the buttock, be felt to stick out more than the rest by the bigness of a nut, you may conclude him under ten, but if the joints are all smooth he may be fifteen.

4. If the eyes are round, full, and, as it were, starting from his head, having no pits over them, but smooth and even with his temples, and free from wrinkles, both under and above, it is a certain mark of youth.

5. If the skin be taken up in any part between the finger and thumb, and, being let go, returns suddenly to its place, and remains without wrinkles, he may be judged to be young.

We may also judge of a horse's age, by looking on his palate; for if he is old, the roof of his mouth is lean and dry towards the middle, and those ridges, which, in young horses, are pretty high and plump, diminish as they increase in age; so that in very old horses, the roof of the mouth is nothing but skin and bone. — This last is a very necessary remark, especially in mares, which seldom have any tushes to discover their age by.

Age *of a hart*, in hunting, is judged by the furniture of his head.—At a year old, there is nothing to be seen but bunches. At two, the horns appear more perfectly, but straiter and smaller. At three they grow into two spars; at four into three, and so increase yearly in branches, till they are six years old; after which their age is not certainly to be known by their head.

Age is also used in a synonymous sense with century. See Century.

Age likewise denotes certain periods of the duration of the world.

Thus, among christian chronologers, we meet with the age of the law of nature, which comprehends the whole time between Adam and Moses; the age of the jewish law, which takes in all the time from Moses to Christ; and lastly, the age of grace, or the number of years elapsed since the birth of Christ.

Among antient historians, the duration of the world is also subdivided into certain periods, called ages; of which they reckon three: the first, reaching from the creation to the deluge which happened in Greece, during the reign of Ogyges, is called the obscure or uncertain age; the history of mankind, during that period, being altogether uncertain. The second, called the fabulous or heroic, terminates at the first olympiad; where the third, or historical age, commences.

The antient poets alſo divided the duration of the world into four ages, or periods; the firſt of which they called the golden age, the ſecond the ſilver age, the third the brazen age, the fourth the iron age. Not unlike theſe are the four ages of the world, as computed by the Eaſt-Indians, who extend them to a monſtrous length.

AGE alſo denotes certain degrees or periods of human life, commonly reckoned four, *viz.* infancy, youth, manhood, and old age. The firſt of which extends to the fourteenth year; the ſecond, to the twenty-fifth year; the third, to the fiftieth year: and the fourth, to the ſeventy-fifth year, or rather, as long as a man lives. See the article LONGEVITY.

AGE, in law, ſignifies certain periods of life, when perſons of both ſexes are enabled to do certain acts, which for want of years and diſcretion they were incapable of before: thus, a man at twelve years of age, ought to take the oath of allegiance to the king, in a leet: at fourteen, which is his age of diſcretion, he may marry, chooſe his guardian, and claim his lands held in ſocage.

Twenty-one is called full age, a man or woman being then capable of acting for themſelves, of managing their affairs, making contracts, diſpoſing of their eſtates, and the like; which before that age they could not do.

A woman is dowable at nine years of age, may marry at twelve, and at fourteen chooſe her guardian.

If a man or woman acts in any of the above-mentioned capacities, before the time preſcribed by law, he or ſhe may retract at that time, otherwiſe they are ſuppoſed to agree to it anew, and it ſhall be deemed valid. Thus, if a man marries before fourteen, or a woman before twelve, they may either agree to the marriage, or not, at theſe ſeveral ages; and ſo in other caſes.

At fourteen, a man may diſpoſe of his perſonal eſtate by will, but not of lands. At this age too a man or woman is firſt capable of being a witneſs, and under it perſons are not generally puniſhable for crimes, though they muſt ſatisfy the damage ſuſtained by treſpaſs committed by them.

AGE-*prier*, *ætatem precari*, is when an action being brought againſt a perſon under age, for lands deſcended to him, he, by motion or petition, ſhews the matter to the court, praying the action may be ſtaid till his full age; which the court generally agrees to. However, as a purchaſer, a minor ſhall not have his age-prier; nor in any writ of aſſize, of dower, or petition; but he may in any action of debt.

By the civil law the caſe is otherwiſe, an infant or minor being obliged to anſwer by his tutor or curator.

Among the Romans it was unlawful to put up for any public office, or magiſtracy, unleſs the candidate had attained to a certain age; which differed according to the offices ſued for. Hence the phraſes conſular age, prætorian age, &c. See the articles CONSUL, PRÆTOR, &c.

AGE *of the moon*, in aſtronomy, the time elapſed ſince her laſt conjunction with the ſun. See the article MOON.

AGEMOGLANS, AGIAMOGLANS, or AZAMOGLANS, in the turkiſh cuſtoms, chriſtian children raiſed every third year, by way of tribute, from the chriſtians tolerated in the turkiſh empire.

The collectors of this odious tax uſed to take one child out of three, pitching always upon the moſt handſome.

The word agemoglans properly ſignifies a barbarian's child; and out of their number, after being circumciſed, and inſtructed in the religion and language of their tyrannical maſters, are the Janizaries recruited. As to thoſe who are thought unfit for the army, they are employed in the loweſt offices of the ſeraglio.

AGEN, an antient city of France, in the province of Guienne, ſituated on the river Garronne, about ſixty miles ſouth-eaſt of Bourdeaux. It is a biſhop's ſee, and the capital of the Agenois.

AGENDA, among philoſophers and divines, ſignifies the duties which a man lies under an obligation to perform: thus we meet with the agenda of a chriſtian, or the duties he ought to perform, in oppoſition to the credenda, or things he is to believe.

Agenda is more particularly uſed for divine ſervice; in which ſenſe, we meet with *agenda matutina & veſpertina*; that is, morning and evening prayers.

AGENDA, among merchants, a term ſometimes uſed for a memorandum book, in which is ſet down all the buſineſs to be tranſacted during the day, either at home or abroad.

AGENT, in a general ſenſe, denotes any thing which acts or produces an effect. See the articles ACT and ACTION.

Agents are either natural or moral.

Natural agents are all ſuch inanimate bodies, as have a power to act upon other bodies, in a certain and determinate manner: ſuch is fire, which has the invariable property or power to warm or heat. Moral agents, on the contrary, are rational creatures, capable of regulating their actions by a certain rule.

It is a celebrated queſtion among philoſophers, and divines, whether man be a free, or a neceſſary agent? It may be thus ſtated: man is a neceſſary agent if all his actions are ſo determined by the cauſe preceding each action, that not one paſt action could poſſibly not have come to paſs, or have been otherwiſe than it was; nor one future action can poſſibly not come to paſs, or be otherwiſe than it ſhall be. On the contrary, man is a free agent, if he be able at any time, under the circumſtances and cauſes he then is, to do different things; or in other words, if he is not ever unavoidably determined in every point of time, by the circumſtances he is in, to do that one thing he does, and not poſſibly to do any other. See the article FREE.

Which of theſe two definitions agrees to man, is a queſtion of fact to be determined by what we experience in ourſelves, with regard to the operations of our own minds. A late author pretends to reduce the latter definition to an abſurdity.

AGENTS, among phyſicians and chemiſts, an appellation given to all kinds of menſtruums.

AGENT is alſo uſed to denote a perſon entruſted with the management of an affair, whether belonging to a ſociety, company, or private perſon; thus we ſay, agents of the exchequer, of the victualling office, *&c.*

AGENTS *of bank and exchange*, in the commercial polity of France, are much the ſame with our exchange-brokers.

AGENT *and patient*, in law, is ſaid of a perſon who is the doer of a thing, and alſo the party to whom it is done. Thus, if a man who is indebted to another, makes his creditor his executor, and dies, the executor may retain ſo much of the goods of the deceaſed, as will ſatisfy his debt; by which means he becomes agent and patient; that is, the perſon to whom the debt is due, and the perſon who pays it.

AGERATUM, *maudlin*, in botany, a genus of the ſyngeneſia polygamia æqualis claſs of plants, with a monopetalous perſonated flower; and an oblong membranaceous fruit, divided into two cells, which contain a number of minute ſeeds, affixed to a placenta. See plate VII. fig. 5.

This plant is ſaid to be good for incontinence of urine, on account of its aſtringent virtue; but is rarely preſcribed in the preſent practice.

AGGA, or AGONNA, a britiſh ſettlement on the gold coaſt of Guinea. It is ſituated under the meridian of London, in 6 degrees of north lat.

AGGER, in the antient military art, a bank or rampart, compoſed of various materials, as earth, boughs of trees, *&c.* The agger of the antients was of the ſame nature with what the moderns call lines.

AGGER was alſo uſed in ſeveral other ſenſes, as for a wall or bulwark, to keep off the ſea; for the middle part of a military road, uſually raiſed into a ridge; and ſometimes for the heaps of earth raiſed over graves, more commonly called *tumuli.*

AGGERHUYS, a city of Norway, capital of the province of the ſame name. It is ſubject to Denmark, and ſituated in 11° eaſt longit. and 59° 30′ north lat.

AGGLUTINANTS, *agglutinantia*, in pharmacy, *&c.* make a claſs of ſtrengthening medicines, of a glutinous or viſcous nature; which, by readily adhering to the ſolids, contribute greatly to repair their loſs.

Agglutinants may be divided into two kinds: 1. Good nouriſhing foods, eſpecially jellies, whether of hartſhorn, veal, mutton, *&c.* 2. Medicines, properly ſo called, as olibanum, dragon's-blood, gum tragacanth, caſſia, comfrey, plantain, and others of the ſame intention.

AGGLUTINANTS, among ſurgeons, denote much the ſame with vulneraries. See the article VULNERARY.

AGGLUTINATION, in a general ſenſe, denotes the joining two or more things together, by means of a proper glue or cement.

AGGLUTINATION, among phyſicians, ſignifies either the adherence of new ſubſtance, or the giving a glutinous conſiſtence to the animal fluids, whereby they become more fit for nouriſhing the body. See the article AGGLUTINANTS.

Agglutination, according to ſome, is effected by a fermentation; whilſt others attribute

attribute ſuch a glutinous nature to the chyle, that a bare contact ſuffices to make it adhere.

Agglutination is alſo a term uſed by aſtronomers, to denote the meeting of two or more ſtars in the ſame part of the zodiac, or the ſame coalition of ſeveral ſtars.

AGGRAVATION, a term uſed to denote whatever heightens a crime, or renders it more black.

AGGREGATE, in a general ſenſe, denotes the ſum of ſeveral things added together, or the collection of them into one whole. Thus, a houſe is an aggregate of ſtones, wood, mortar, *&c.* See the article Aggregation.

An aggregate differs from text, mixt, or compound; in as much as the union in theſe laſt is more intimate, than between the parts of an aggregate. See the article Text, *&c.*

AGGREGATION, in natural philoſophy, a ſpecies of union, whereby ſeveral things, nowiſe connected by nature, are collected together ſo as to form one whole.

Aggregation is alſo uſed in a figurative ſenſe, for an aſſociation, or the adding new members to a ſociety already eſtabliſhed.

AGGRESSOR, among lawyers, denotes the perſon who began a quarrel, or made the firſt aſſault.

It is a very material point to know who was the firſt aggreſſor, and accordingly never fails to be ſtrictly enquired into.

AGHRIM, a town of Ireland in the county of Wicklow, and province of Leinſter, ſituated about thirteen miles ſouth-weſt of Wicklow.

AGIADES, in the turkiſh armies, denote a kind of pioneers, employed in fortifying camps, and the like offices.

AGILD, or Agilde, in old law-books, denotes a perſon of ſo little account, that whoever killed him was liable to no fine for ſo doing.

AGILITY, *agilitas*, ſignifies an aptitude of the ſeveral parts of the body to motion; or it may be defined, the art or talent of making the beſt uſe of our ſtrength.

AGINCOURT, a village of the french Netherlands; famous on account of the victory obtained by Henry V. of England, over the French, in 1415.

AGIO, in commerce, a term chiefly uſed in Holland and at Venice, where it denotes the difference between the value of bank ſtock, and the current coin.

Money in bank is commonly worth more than ſpecie: thus, at Amſterdam, they give 103 or 104 florins for every 100 florins in bank. At Venice, the agio is fixed at 20 *per cent.*

Agio is alſo uſed for the profit ariſing from the diſcounting a note, bill, *&c.* See the articles Bill and Discount.

Agio of aſſurance, is the ſame with what we call policy of aſſurance. See the article Policy.

AGIOSYMANDRUM, in the greek church, ſubject to the Turks, a wooden machine, uſed inſtead of bells, the uſe of theſe being prohibited.

AGIST, Agistment, Agistage, or Agistation, in law, the taking in other people's cattle to graze, at ſo much *per* week.

The term is peculiarly uſed for the taking in cattle to be fed in the king's foreſts, as well as for the profits thence ariſing.

Agistment is alſo uſed in a metaphorical ſenſe, for any tax, burden, or charge; thus, the tax levied for repairing the banks of Romney marſh was called *agiſtamentum.*

AGISTOR, or Agistator, an officer belonging to foreſts, who has the care of the cattle taken in to be grazed, and levies the monies due on that account.

There are four ſuch agiſtors in each foreſt all created by letters patent, and commonly called gueſt-takers, or giſt-takers.

AGITATION, *agitatio*, the act of ſhaking a body, or toſſing it backwards and forwards.

Agitation greatly aſſiſts ſeveral operations of nature. By it butter is made out of milk. Digeſtion too is reckoned an inſenſible kind of agitation.

The agitation of the body is deemed one mark of inſpiration. See Inspiration.

Agitation, among antient phyſicians, denotes a kind of exerciſe, generally called ſwinging, which they put in practice when the patient could uſe no other exerciſe.

AGITATOR, in antiquity, a term ſometimes uſed for a charioteer, eſpecially thoſe who drove in the circus at the curule games.

Agitators, in the engliſh hiſtory, certain officers ſet up by the army in 1647, to take care of its intereſts.

Cromwell

Cromwell joined the agitators, only with a view to ſerve his own ends; which being once accompliſhed, he found means to get them aboliſhed.

AGLECTS, Aglets, or Agleeds, among botaniſts, the ſame with what is more uſually called apices. See Apices.

AGMEN, in the roman art of war, denoted an army, or rather a part of it, in march: thus we read of the *primum agmen*, or van-guard; *medium agmen*, or main body; and the *poſtremum agmen*, or rear-guard. We alſo meet with the *agmen pilatum*, which was a part of the army, drawn up in form of an oblong parallelogram, and anſwered to what the moderns call column. However, the *agmen quadratum*, or ſquare form, was that moſtly practiſed in the roman armies.

AGMONDESHAM, in geography. See the article Amersham.

AGNABAT, a town of Tranſylvania, ſubject to the houſe of Auſtria, ſituated about ten miles north-eaſt of Hermanſtadt.

AGNATION, *agnatio*, among civilians, denotes the relation of kinſhip ſubſiſting between the deſcendants of the ſame man, in the male line.

AGNOETÆ, in church-hiſtory, a ſect of heretics, ſo called on account of their maintaining, that Chriſt, with reſpect to his human nature, was ignorant of many things, and particularly of the day of judgment, an opinion which they built upon the text, Mark xiii. 32. whereof the moſt natural meaning is, that the knowledge of the day of judgment does not concern our Saviour, conſidered in the character of Meſſiah.

AGNOMEN, in roman antiquity, a kind of fourth or honorary name, given to a perſon on account of ſome extraordinary action, virtue, or other accompliſhment. Thus the agnomen Africanus was beſtowed upon Publius Cornelius Scipio, on account of his great atchievements in Africa. In caſes of adoption, it was uſual to retain their former cognomen, or family name, by way of agnomen: thus Marcus Junius Brutus, being adopted by Quintus Servilius Cæpio, called himſelf Quintus Servilius Cæpio Brutus.

Some contend, that the agnomen was the third in order of three roman names: thus, in Marcus Tullius Cicero, that Marcus is the prænomen, Tullius the nomen, and Cicero the agnomen; and others are of opinion, that the agnomen is the ſame with the cognomen.

AGNUS, the lamb, in zoology, the young of the ſheep-kind; for the proper treatment of which, ſee the article Lamb.

Agnus *caſtus*, in botany, &c. a name given to the vitex, on account of its efficacy in preventing looſe venereal deſires, pollutions, &c. See the article Vitex. During the feaſt of Ceres, the athenian ladies, who made profeſſions of chaſtity, lay upon the leaves of *agnus caſtus*: and to this day the monks and nuns are ſaid to uſe them for the ſame purpoſe.

Agnus *dei*, in the church of Rome, a cake of wax, ſtamped with the figure of a lamb ſupporting a croſs.

Theſe being conſecrated by the pope with great ſolemnity, and diſtributed among the people, are ſuppoſed to have great virtues; as to preſerve thoſe who carry them worthily, and with faith, from all manner of accidents; to expel evil ſpirits, &c.

What an admirable expedient to drain the purſes of the credulous laity, and fill thoſe of the clergy!

Agnus dei is alſo a popular name for that part of the maſs, where the prieſt ſtrikes his breaſt thrice, and ſays the prayer beginning with the words *agnus dei*.

Agnus *ſcythicus*, in natural hiſtory, the name of a fictitious plant, ſaid to reſemble a lamb, and to grow in Tartary.

The uſual account given of this extraordinary production is, that the Tartars ſow in their ground a ſeed reſembling that of melon, but leſs oblong; from whence ariſes a plant called by them Borometz; *i. e.* lamb, growing almoſt to the height of three feet, and having feet, hoofs, ears, and the whole head, excepting horns, reſembling that animal. In lieu of horns it has a peculiar ſort of hair, not unlike horns; it is covered with a fine thin ſkin, which being pulled off, is worn by the natives as a cover for the head. The pulp within reſembles that of the Gammarus; and when wounded, a liquor ouzes out like blood. It lives as long as there is graſs and herbage around it; but when theſe are conſumed, it waſtes and dies. Add, that wolves are fond of it, while no other beaſts will feed on it.

Kæmpfer, who was in the country, could not, by the moſt diligent enquiry, find any account of it: and therefore concludes the whole to be a fiction.

As to the curioſities ſhewn under this name, they can be nothing elſe but the capillary roots of certain plants helped out by art.

AGOGE, among antient muficians, a fpecies of modulation, wherein the notes proceeded by contiguous degrees.

There are three kinds of agoge: 1. When the notes rife from grave to acute, as, B C D E, called by the antients *ductus rectus*, and by the modern Italians *conducimento retto*. 2. When they fall from acute to grave; as E D C B, called by the antients *ductus revertens*, and by the modern Italians *conducimento ritornante*, 3. When they rife by flats and fall by fharps, called by the antients *ductus circumcurrens*, and by the modern Italians *conducimento circoncorrente*.

AGON, in the public games of the antients, a term ufed indifferently for any conteft or difpute, whether refpecting bodily exercifes, or accomplifhments of the mind. Thus poets, muficians, &c. had their agones, as well as the athletæ.

Games of this kind were celebrated at moft of the heathen feftivals, and not unfrequently by themfelves, either annually, or at certain periods of years: of this laft kind were the *agon gymnicus* at Athens, the *agon nemeus*, *agon neronianus*, *agon folis*, &c.

AGON was alfo ufed for one of the minifters employed in the heathen facrifices, whofe bufinefs it was to ftrike the victim.

AGONALES, or AGONENSES, in roman antiquity, the fame with the falii. See the article SALII.

AGONALIA, in roman antiquity, feftivals celebrated in honour of Janus, or of the god Agonius, whom the Romans invoked before undertaking any affair of importance.

They feem to have been kept three times in the year, *viz.* on the 5th of the ides of January, on the 12th of the calends of June, and on the third of the ides of December.

AGONISTARCHA, in antiquity, the officer who directed the preparatory exercifes of the athletæ; though fome make him the fame with the agonotheta. See AGONOTHETA.

AGONOTHETA, AGONODICA, or AGONOTHETES, in grecian antiquity, was the prefident or fuperintendant of the facred games; who not only defrayed the expences attending them, but infpected the manners and difcipline of the athletæ, and adjudged the prizes to the victors.

At firft there was only one agonotheta, in the olympic games; but feveral colleagues were afterwards joined with him, three of whom had the direction of the horfe races, three others of the pentathlon, and the reft of the other exercifes.

AGONUS, in ichthyology, the name of a fifh of the herring-kind; being a fpecies of clupea, with black fpots on both fides. See plate VIII. fig. 1. and the article CLUPEA.

AGONY, among phyficians, denotes extreme pain, or the utmoft efforts of nature, ftruggling with a difeafe.

Agony, in a more limited fenfe, is ufed for the pangs of death; which are lefs painful than ufually imagined, the body being then incapable of quick fenfations. However, various means have been thought of for mitigating the agony of death. Lord Bacon confiders this as part of the province of a phyfician; and that not only, when fuch a mitigation may tend to a recovery, but alfo when, there being no further hopes of a recovery, it can only tend to make the paffage out of life more calm and eafy.

Opium has been applied for this purpofe, with the applaufe of fome, but the condemnation of more. Baglivi promifed a treatife exprefs, *de medicina Agonizantium*, or the method of treating thofe in the agonies of death. Some think a medicine might be found out, which would alleviate the pains of death, without accelerating it, or which might even tend at the fame time to retard it. But perhaps one of the beft recipe's for this end, is that of M. Patin, *viz.* abftinence from all medicines.

AGONYCLITÆ, or AGONYCLITES, in church-hiftory, a fect of chriftians, in the feventh century, who prayed always ftanding, as thinking it unlawful to kneel. The word is greek, of the above import.

AGORANOMUS, ἀγορανόμος, in grecian antiquity, a magiftrate of Athens who had the regulation of weights and meafures, of the prices of provifions, &c.

The agoranomus anfwered in part to the ædile of the Romans. See ÆDILE.

Some make the agoranomi only ten in number, five to the city, and as many to the pyreus; whereas others make them fifteen.

AGRA, a city of the hither India, and capital of a kingdom of the fame name. It is fituated on the river Jemma, and is a large, populous, and beautiful city, where the mogul frequently refides.

AGRAM, a city and bifhop's fee of Hungary, fituated near the frontiers of Carniola.

AGRARIAN, in a general fenfe, denotes

ſomething belonging to, or connected with, lands. Thus,

Agrarian ſtations, *agrariæ ſtationes*, in the roman art of war, were a kind of advanced guards, poſted in the fields.

AGRARIAN *laws*, among the ſame people, thoſe relating to the diviſion and diſtribution of lands; of which there were a great number, but that called the *agrarian law*, by way of eminence, was publiſhed by Spurius Caſſius, about the year of Rome 268, for dividing the conquered lands equally among all the citizens, and limiting the number of acres which each citizen might enjoy.

Harrington, in his Oceana, thinks an agrarian law the only baſis of liberty; through the want of which, or the non-obſervance of it, the common-wealth of Rome came to ruin. He likewiſe lays down the plan of an agrarian law for England, whereby no man ſhould be allowed to poſſeſs more than 2000 *l.* a year in lands.

AGRARIUM, the ſame with agiſtment. See the article AGISTMENT.

AGREEMENT, in law, ſignifies the conſent of ſeveral perſons to any thing done, or to be done.

There are three kinds of agreement. Firſt, an agreement already executed at the beginning, as when money is paid, or other ſatisfaction made for the thing agreed to. Secondly, an agreement after an act done by another, to which a perſon agrees: this is alſo executed. Thirdly, an agreement executory, or to be executed in time to come.

An agreement put in writing does not change its nature, but if it be ſealed and delivered it becomes ſtill ſtronger, nay, any writing under hand and ſeal, or a proviſo amounting to an agreement, is equivalent to a covenant.

AGRESSES, or OGRESSES, in heraldry, a term ſometimes uſed for pellets. See the article PELLETS.

AGRIA, a town and river of upper Hungary. The town is a biſhop's ſee, and ſituated about thirty five miles N. E. of Buda.

AGRICULTURE, in a general ſenſe, denotes the art of rendering the earth fertile, by tillage and culture.

In which ſenſe, it comprehends gardening, as well as huſbandry. See the articles GARDENING and HUSBANDRY.

AGRICULTURE is more particularly uſed for the management of arable lands, by ploughing, fallowing, manuring, *&c.* See the article PLOUGHING, *&c.*

Agriculture is a no leſs honourable than profitable art, held in the higheſt eſteem among the antients, and equally valued by the moderns.

The Egyptians aſcribed the invention of agriculture to Oſiris, the Greeks to Ceres and her ſon Triptolemus, and the Italians to Saturn or Janus. But the Jews, with more reaſon, aſcribe this honour to Noah, who, immediately after the flood, ſet about tilling the ground and planting vineyards.

Agriculture has been the delight of the greateſt men. We are told, that Cyrus the younger planted and cultivated his garden, in a great meaſure, with his own hands; and it is well known, that the Romans took many of their beſt generals from the plough.

But not to detain the reader with a needleſs encomium of this univerſally admired art, we ſhall here ſubjoin its principal branches, which will be treated of under their reſpective articles.

Agriculture, then, may be ſubdivided into the proper management, 1. Of all kinds of arable lands, whether of a clayey, ſandy, loamy, or whatever other ſoil. See the articles CLAY-LANDS, SANDY-LANDS, *&c.*

2. Of lands employed in paſturage, whether they be meadow-lands, marſhy lands, *&c.* See MEADOW, *&c.*

3. Of wood-lands, or thoſe laid out in nurſeries, plantations, foreſts, woods, *&c.* See the article WOOD, *&c.*

AGRIÆ, in natural hiſtory, an order of quadrupeds which have no teeth, but have a very long and cylindric tongue. Of this order there are only two known genera, the myrmecophaga, and the manis. See the articles MYRMECOPHAGA and MANIS.

AGRIFOLIUM, in botany, the ſame with aquifolium. See AQUIFOLIUM.

AGRIMONIA, in botany. See the article AGRIMONY.

AGRIMONOIDES, in botany, a ſpecies of agrimonia, with roſaceous flowers, which, together with their cups, are received into another funnel-faſhioned cup, fimbriated at the edges. The proper cup of the flower at length becomes a pointed, oval fruit, uſually containing only one ſeed. See plate VIII. fig. 2. It flowers in April, comes to perfection in May, and grows in ſome mountainous parts

parts of Italy; as to its medical virtues it agrees with agrimony. See the next article.

AGRIMONY, *agrimonia*, in botany, a genus of the dodecandria digynia clafs of plants with rofaceous flowers, the cup of which at length becomes an oblong echinated fruit, containing one or two oblong feeds. See plate VIII. fig. 3.

Agrimony-leaves make a very pleafant tea, faid to be good in the jaundice, in cachectic cafes, and in obftructions of the liver and fpleen. The country people alfo ufe it, by way of cataplafm, in contufions and frefh wounds.

AGRIPPA, a denomination given by antient as well as modern phyficians, to children born with the feet foremoft. See the article DELIVERY.

Notwithftanding what fome alledge, this kind of birth is certainly very dangerous: and, therefore, ought to be carefully avoided by the fkilful midwife.

AGROM, in medicine, a diforder incident to the people of the Eaft-Indies, wherein their tongues cleave in feveral places.

The remedy for this difeafe, which they attribute to an extreme heat in the ftomach, is to chew the black feeded bafilica, and to drink a chalybeated liquor, or the juice of large mint.

AGROSTEMA, in botany, a diftinct genus of plants, according to Linnæus; but comprehended among the lychnis's by Tournefort. See the article LYCHNIS.

AGROSTIS, in botany, a genus of the triandria digynia clafs of plants, the calyx of which is compofed of a glume, confifting of two valves, and inclofing a fingle flower; it is of an acuminated figure; the corolla is alfo of an acuminated figure, and compofed of two valves; it is fcarce fo long as the cup, and one of the valves is larger than the other, and ariftated; the corolla ferves in place of a pericarpium; it furrounds and every way inclofes the feed, which is fingle, roundifh, and pointed at each end.

AGROSTOGRAPHIA, among naturalifts, fignifies the hiftory or defcription of graffes. Such is that of Scheuchzer, containing an accurate defcription of feveral hundreds of fpecies of grafs.

AGRYPNIA, in a general fenfe, denotes much the fame with watchfulnefs, or an inaptitude to fleep; which is a very troublefome fymptom of feverifh, and other diforders. See the article WATCHING.

AGRYPNIA, in the greek church, the vigil of any of the greater feftivals.

AGUE, a general name for all periodical fevers, which, according to the different times of the return of the feverifh paroxyfm, or fit, are denominated quotidian, tertian, or quartan agues. See the article QUOTIDIAN, &c.

Agues are thought to be owing to a fuppreffion of perfpiration, as their more immediate caufe, whether that be occafioned by a foggy and moift air, or by putrid damps; but their *caufa proxima* feems to be an actual corruption of the humours of the body.

Dr. Pringle thinks the beft way of accounting for the periodic returns, is upon the principle of putrefaction. The heat of the body, he obferves, varies little, and therefore the corruption produced in any of the humours muft happen in a determinate time. If we fuppofe, that in the paroxyfm the more corrupted particles of the blood do not at all pafs off through the fkin with the fweat, but that fome part of them are difcharged with the bile; thefe particles coming into the inteftines, and being from thence taken up by the lacteals, and carried into the blood, may there act as a new ferment, and occafion a return of the fit. Thus, the corruption of the bile may be the effect of the firft fit, and the caufe of thofe that enfue.

The doctor farther obferves, that though all moift countries are fubject to agues of fome kind or other; yet if the moifture is pure, and the fummers are not clofe and hot, they will moftly appear in a regular tertian fhape, and be eafily cured. But if the moifture arifes from long ftagnating water, in which plants, fifhes and infects die and rot, then the damps, being of a putrid nature, not only occafion more frequent, but more dangerous fevers, which oftener appear in the form of quotidians, and double tertians, than that of fingle ones.

It is remarkable, how much thefe fevers vary with the feafon; for however frequent, violent, or dangerous they are in the decline of fummer, or beginning of autumn, when the putrefaction is higheft; yet before winter they are commonly reduced to a fmall number, become mild, and generally affume a regular tertian form.

AGUEPERSE, a town of France, fituated in the Lyonnois, about fifteen miles north of Clermont.

AGUTI, in zoology, an american quadruped



T. Jefferys sculp.

druped of the rat-kind, of the fize of the guinea-pig, which it greatly refembles. Its hairs are rigid and gloffy, of a mixed colour between red and brown, with more or lefs of black. Its whifkers are like thofe of the rabbit-kind; but like the hog, its upper chop is longer than the under one. Its upper lip is fplit, like that of the hare. Its tail is very fhort, the eyes are prominent, and the legs are altogether or almoft naked. See plate IX. fig. 6.

AHOUAI, in botany, the name of Tournefort for a genus of plants, called by Linnæus cerbera; the flower of which confifts of one infundibuli-form or funnel-fafhioned leaf; and its fruit, which fomewhat refembles a pear, contains a triagonal kernel. See plate VIII. fig. 4. and the article CERBERA.

AHUYS, a fea-port town of Sweden, in the province of Gothland, fituated in E. longitude 14°. and N. longitude 56°.

AJAZZO, the name of two towns, the one in the ifland of Corfica, and the other in leffer Afia, about fifty miles weft of Aleppo.

AID, in a general fenfe, denotes any kind of affiftance given by one perfon to another.

AID, or AYDE, in law, denotes a petition made in court to call in help from another perfon, who has intereft in land, or other thing contefted. This is called *aid prier*, which not only ftrengthens the party that prays for the aid, but gives the other perfon an opportunity of avoiding a prejudice that might otherwife accrue to his own right. Thus, a tenant for life may pray aid of the perfon in reverfion; and a city or borough, that holds a fee-farm of the king, if any thing be demanded of them, may pray for aid of the king.

AID-*de-camp*, in military affairs, an officer employed to receive and carry the orders of a general. They ought to be alert in comprehending, and punctual and diftinct in delivering them.

In the french armies, every general is allowed four aids de camp, a lieutenant-general two, and a marfhal-de-camp one.

AID-*major*, the french term for an adjutant. See the article ADJUTANT.

AID, *auxilium*, in antient cuftoms, a fubfidy paid by vaffals to their lord, on certain occafions.

Such were the aid of relief, paid upon the death of the lord mefne, to his heir; the *aid cheval*, or capital aid, due to the chief lord on feveral occafions, as to make his eldeft fon a knight, to make up a portion for marrying his daughter; and fo in other cafes.

Royal AID, an appellation fometimes given to the land-tax.

AIDS, in the french cuftoms, certain duties paid on all goods exported or imported into that kingdom.

Court of AIDS, in France, a fovereign court eftablifhed in feveral cities, which has cognizance of all caufes relating to the taxes, gabels, and aids.

AIDS, in the manege, are the helps or affiftances, by which the horfeman contributes towards the motion or action required of the horfe, by a difcreet ufe of the bridle, cavefon, fpur, poinfon, rod, calf of the leg, and voice.

The inner heel, inner leg, inner rein, *&c.* are called inner aids; as the outer heel, the outer leg, outer rein, *&c.* are called outer aids.

AIEREBA, in ichthyology, a fifh of the *paftinacha marina* kind, the body of which is of a regular oval or round fhape, and its head placed far within the verge of the thin part. See plate VIII. fig. 5.

AIGUISCE', AIGUISSE', or EGUISCE', in heraldry, denotes a crofs with its four ends fharpened, but fo as to terminate in obtufe angles.

It differs from the crofs fitchée, in as much as the latter goes tapering by degrees to a point, and the former only at the ends.

AILE, or AIEL, in law, a writ which lies where a perfon's grand-father, or great-grand-father being feifed of lands, *&c.* in fee-fimple the day that he died, and a ftranger abates or enters the fame day, and difpoffeffes the heir of his inheritance.

AILESBURY, the county-town of Buckinghamfhire, fituated near the Thames, about forty-four miles weft of London. It fends two members to parliament, and gives the title of earl to the noble family of Bruce. W. longitude 40'. N. latitude 51°. 40'.

AIR, *aër*, in phyfiology, a thin elaftic fluid, furrounding the globe of the earth. It is no eafy tafk to afcertain the nature and origin of air, as being a fluid imperceptible to all our fenfes, except that of feeling. Indeed, from the refiftance and impreffion it makes, we know that there is fuch a body, which every where furrounds our earth, and is of the utmoft impor-

importance not only to mankind, in promoting many useful arts, but absolutely necessary to the preservation of animal life itself.

The best account we have of the origin of air, is that of Mr. Boyle, who supposes it to be made up of three different kinds of corpuscles, *viz.* 1. Of those numberless and minute particles, which, in the form of vapours or dry exhalations, ascend from the earth, water, minerals, vegetables, animals, *&c.* in short, of whatever substances are elevated by the celestial or subterraneous heat, and thence diffused into the atmosphere. 2. Of a still more subtile matter, consisting of those exceedingly minute atoms, the magnetical effluvia of the earth, with other innumerable particles sent from the bodies of the celestial luminaries, and causing, by their impulse, the idea of light in us. 3. Of an elastic substance, which is the basis of all the other parts, and constitutes the true essence of air, concerning the structure of which various hypotheses have been framed. Some have resembled these elastic particles to the springs of watches coiled up, and endeavouring to restore themselves; others to flocks of wool, which being compressed, have an elastic force; and others, to slender wires, of different substances, consistences, *&c.* yet all springy, expansible and compressible.

That the air was created at first with the earth itself is not to be doubted; and that ever since, there has been a constant generation of particles of air by the mutual action of bodies upon each other, as in fermentation, and all kinds of natural and artificial chemistry, sir Isaac Newton thinks very reasonable to suppose; and Mr. Boyle has given numerous experiments relating to the production of artificial or factitious air. See the articles Fermentation, Distillation, *&c.*

Among the artificial methods of producing air, the fittest for practice seem to be fermentation, corrosion, and the dissolution of bodies, by the boiling of water and other liquors; by the mutual action of bodies upon one another, especially saline ones; and lastly, by analysing and resolving certain substances.

It appears from the experiments made by the late learned Dr. Hales, that different bodies contain different quantities of air, from a sixteenth to one half of their whole substance. In the following table, the first column shews the bulk of the body in cubic inches; the second, its weight in grains, the third, the quantity of generated air in cubic inches; the fourth, the weight of this air in grains; and the fifth shews the proportion which it bears to the whole.

Substances.	C. Inches	Grains.	C. Inches	Grains.	Propor.
Deer's horn	$\frac{1}{2}$	241	117	33	$\frac{1}{7}$
Oyster-shell	$\frac{1}{2}$	266	162	46	$\frac{1}{6}$
Heart of oak	$\frac{1}{2}$	135	108	30	$\frac{1}{4}$
Indian wheat	—	388	270	77	$\frac{1}{5}$
Pease	1	318	396	113	$\frac{1}{3}$
Mustard-seed	—	437	270	77	$\frac{1}{6}$
Amber	$\frac{1}{2}$	135	135	38	$\frac{1}{35}$
Dry tobacco	—	142	153	44	$\frac{1}{3}$
Honey, with calx of bones	1	359	144	41	$\frac{1}{9}$
Yellow wax	1	243	54	15	$\frac{1}{10}$
Coarse sugar	1	373	126	36	$\frac{1}{10}$
Newcastle coal	$\frac{1}{2}$	158	180	51	$\frac{1}{3}$
Nitre, with calx of bones	$\frac{1}{2}$	211	90	26	$\frac{1}{8}$
Rhenish tartar	1	443	504	144	$\frac{1}{3}$
Calculus humanus	$\frac{1}{4}$	230	516	147	$\frac{1}{2}$

Properties of Air. Air being an universal and powerful instrument, which nature is constantly applying in all her works, the knowledge of its active properties is highly necessary not only to the chemist and physician, but to the philosopher and divine.

1. Fluidity, then, which is one of the most obvious and essential properties of air, seems to be owing to the tenuity of its parts. That air is a fluid, appears from the easy passage it affords to all bodies moving in it. However, air differs from all other fluids, in being compressible, in its differing in density according to its height from the earth's surface, and in being incapable of fixation, at least by itself. It is of a different density in every part, decreasing from the earth's surface upwards; whereas other fluids are of an uniform density throughout. The air is therefore a fluid *sui generis.* See the articles Fluid, Compression, Condensation, Condenser, Congelation, Density *of the air*, and Atmosphere.

2. Gravity, another considerable property of

of air, may be proved from various experiments upon the air-pump; the principal of which are as follow. 1. By actually weighing it in a nice balance, where we ſhall ſee, that one gallon of air will weigh a dram very nearly. 2. By filling a glaſs tube with mercury, and inverting it in a baſon of the ſame fluid, where it will appear, that a column will be ſupported in the tube, by the ſole weight or preſſure of the air, to upwards of the height of twenty-eight inches. 3. By taking the air off the ſurface of the quickſilver in the gage of the air-pump, which then immediately riſes by the preſſure of the external air. 4. By exhauſting a receiver placed over the hole of the braſs plate on the pump, which will then be kept faſt by the preſſure of the incumbent air. Or, 5. More demonſtratively, by exhauſting a ſmall receiver under one larger, and letting in the air at once upon it, which will then be faſtened to the plate as before, though not placed over the hole. 6. By placing the hand on the open receiver, and exhauſting, the weight of the air on the hand, will be extremely ſenſible. 7. By placing a piece of thin glaſs or a bladder on the ſaid open receiver, which, when the air is a little exhauſted, will be broke into pieces by the weight of the incumbent air. 8. The air, exhauſted from a thin bottle under a receiver, and then ſuddenly let in, will, by its weight, inſtantly reduce it to very ſmall pieces. 9. By putting a piece of wood under quickſilver in the receiver, and then exhauſting the air, and letting it in again, it will, by its weight, force the quickſilver into the pores of the wood, and very ſenſibly increaſe its weight. 10. The exhauſted braſs hemiſpheres prove not only the prodigious weight of the air, but alſo the quantity thereof very exactly. 11. By exhauſting glaſs-bubbles, ſwimming in water, and letting the air in again, it will force the water into the bubbles, and make them ſink. 12. The ſyringe, with its weight deſcending in vacuo, and aſcending again upon the admiſſion of air, does very prettily prove the preſſure of the air, and the rationale of ſyringes in general. See Syringe, Gravity, &c.

That water riſes in pumps, ſiphons, and all kinds of water engines, by the preſſure of the air only, is made evident by taking off the ſaid preſſure, in the exhauſted receiver, from a baſon of mercury, which then will not riſe in the pipe of the ſyringe on drawing up the piſton, as it will in the open air. See Pump, Siphon, Fountain, and Engine.

However, as the air is an heterogeneous fluid, its weight muſt vary according to its different component parts; hence an inſtrument called a barometer, has been invented to ſhew this variation. See the article Barometer.

3. Elaſticity, a third eſſential property of air, is alſo demonſtrable from various experiments of the like kind. 1. By the great expanſion of a ſmall quantity of air in an emptied bladder, when the air is taken off from the external parts in the receiver. 2. By the extruſion of a fluid out of a glaſs-bubble, by the expanſion of the bubble of air contained therein. 3. By the expulſion of the white and yolk of an egg through a ſmall hole in the little end, by the expanſion of the air contained in the great end; and alſo, by raiſing up the ſkin of the egg, (after the yolk is taken away, and one half of the ſhell) by the expanſion of the ſaid included bubble of air, ſo as almoſt to fill the half ſhell. 4. Glaſs-bubbles and images, filled with water, ſo as to make them juſt ſink in water, will, upon exhauſting the air from the ſurface, riſe to the top of the veſſel. 5. Alſo a bladder, filled with air, and juſt made to ſink with a weight, will, upon exhauſtion, ſoon riſe by the expanſion of the contained air. 6. Beer, cyder, water, and porous bodies do emit great quantities of air under the exhauſted receiver. 7. Fiſhes are made ſo light or buoyant, by increaſing the ſpring of the air in their bladders, that they riſe to the top of the water, and cannot again deſcend to the bottom. 8. But that curious experiment, which ſhews the force of the ſpring of the air to be equal to its weight or preſſure, is by raiſing the mercury by the expanſion of a ſmall quantity of confined air to the ſame height in an exhauſted tube above the air-pump, as that which it is raiſed to in the mercurial gage by the preſſure of the atmoſphere below it.

Mr. Boyle has determined the difference between the moſt rarified and moſt condenſed air, to be as 1 to 520000: ſince therefore, after ſo high a degree of rarefaction and condenſation, its elaſticity ſtill remains, we may fairly conclude air to be an unchangeably elaſtic, moveable fluid, conſtantly operating in, and upon all bodies, by its own peculiar vibratory motion.

Heat is found to increaſe the elaſticity of air, and cold to have a quite contrary effect: hence appears the uſe of the thermometer for indicating the various degrees of both. See THERMOMETER.

The great action of animal life, *viz.* breathing, by inſpiration and expiration of air, is owing to the preſſure and ſpring of the air conjointly, as is evident by the contraction and expanſion of a bladder in a ſmall receiver, with a bladder tied on at the bottom to repreſent the diaphragm. See the article DIAPHRAGM.

That air, paſſing through the fire and heated braſs tube, is unfit for animal reſpiration, is ſhewn by the ſudden death of any animal put into a receiver filled therewith. Alſo candles and live coals, put into this aduſt air, immediately go out. Hence the noxious and peſtilential qualities of damps and ſuffocating exhalations, ſo fatally experienced in mines and other ſubterranean places. See DAMPS, EXHALATION, and MINE.

That the different velocities, with which heavy and light bodies deſcend in the air, is owing to the air's reſiſtance only, is manifeſt from the equal velocity or ſwiftneſs with which all bodies deſcend in the exhauſted receiver, as is ſhewn in the experiment of a guinea and a feather. See the article DESCENT.

That fermentation, putrefaction, &c. depend on the air, and are promoted by it, is ſhewn by preſerving fruit in their natural bloom and perfection through the winter in an exhauſted glaſs. See FERMENTATION, PUTREFACTION, &c.

The uſe of the diving-bell depends upon the ſpring and force of the air; for ſince the ſpace, which the air takes up, is reciprocally as the power compreſſing it, it is evident, that, at the depth of thirty-three feet of water, where the preſſure of the atmoſphere is doubled, the bell will be half filled with water; at the depth of ſixty-ſix feet, it will be two thirds filled; at the depth of ninety-nine feet, it will be three-fourths filled; and ſo on. See the article DIVING-BELL.

The ſpring of the air is moſt evidently concerned in that chirurgical operation, called cupping; for which a vacuum is made by a ſyringe in the cupping-glaſs applied to that part, the ſpring of the air in the fleſh under the glaſs does ſtrongly act, and by that means cauſes the fleſh to diſtend and ſwell into the glaſs, while the preſſure of the air, on the parts without the glaſs, accelerates the motion of the blood and fluids towards the part where it is diminiſhed or taken off by the glaſs. See the article CUPPING.

From this account of the air, and its properties, many curious appearances may be underſtood.

1. Air, as a fluid body, is the vehicle of the effluvia of all odorous bodies to the organs of ſmelling; and, as a ponderous fluid, it preſſes them on the nerves of thoſe organs, with a force ſufficient to make them ſenſible. It alſo impreſſes ſapid ſubſtances upon the organs of taſte, and renders them obſervable by the ſenſes. It is alſo the inſtrument of ſound; for the undulations, cauſed in it by bodies moved by various directions, ſtrike upon the external ear, which, by a ſingular mechaniſm, communicates this notice to the nerves expanded upon the internal ear. This weight of the air alſo, by preſſing upon the ſurface of animals and vegetables, prevents a rupture of their veſſels, from the force neceſſary to circulate their juices, to which it is, as it were, a counter-balance. All theſe things are evident, becauſe, on the tops of high mountains, where the air is very rare, the ſenſes of ſmelling, taſting, and hearing are very languid. On the tops of mountains alſo the blood veſſels are very ſubject to burſt, whence frequent hæmorrhages happen to thoſe who travel to their ſummits. See the articles SMELL, TASTE, HEARING, &c.

2. The air, by its elaſticity, contributes greatly to the ſolution of the aliment in the ſtomachs of animals. For, when that which is contained in every part of the food is rarified and expanded by the heat it meets with in the ſtomach, it deſtroys the coheſion of the component particles, and aſſiſts in reducing it to a ſtate of fluidity. At the ſame time, as it is confined in the ſtomach, all its action muſt be determined to the aliment, which it muſt therefore act upon with great force in this rarified ſtate. See STOMACH, RAREFACTION, DIGESTION, &c.

3. Reſpiration, ſo neceſſary to the continuance of the animal life, is performed by means of the air. For, when the air is expelled out of the lungs, the pulmonary veſſels, through which the blood circulates from the right ventricle of the heart, and by which it is returned to the left auricle, collapſe, and are no longer pervious, till the air, ruſhing into the branches of the aſpera arteria upon the elevation of the breaſt, diſtends the lungs, and

and thereby opens not only the air-veſſels, but alſo the branches of the pulmonary vein and artery, which accompany every where thoſe of the aſpera arteria. Here the air, as a heavy fluid, acts upon, compreſſes, and comminutes the blood; and, as it is elaſtic, and dilatable by heat, the action of it upon the blood in the lungs, is, by this property, rendered greater. See RESPIRATION, CIRCULATION, &c.

4. If we conſider the air in all lights, we ſhall find, that every alteration it undergoes muſt induce ſome great change on the animal machine. Thus when it is very heavy, it muſt preſs upon the ſurface of our bodies, and the internal part of the lungs, with a greater force than when it is light. It has been proved by curious obſervations, that the difference of weight, with which our bodies are preſſed by the atmoſphere, in the greateſt degree of its natural gravity, from that which we ſuſtain when it is lighteſt, amounts to 3982 ½ pounds troy-weight. Now as this difference is very great, the effects of it muſt alſo be conſiderable.

5. The different degrees of heat and elaſticity in the air muſt have effects proportionable to the cauſes upon the bodies of animals. The various contents alſo of the air muſt of courſe induce great changes, as it ſome way or other finds means to communicate the qualities it borrows from them to the blood and juices of animals. Hence it becomes the vehicle of contagion, and the propagator of diſeaſes, both epidemical and endemial, which admit of infinite variety, becauſe the alterations of the air, with reſpect to its properties, and to the innumerable combinations of bodies contained in it, are infinite. However, we may venture to conclude, that the moſt healthful is that which is ſerene and dry, and conſequently ponderous, and replete with the acid vital ſpirit.

6. It is the phyſical office and uſe of the air, to aſſiſt in raiſing the vapours and exhalations of the earth, and to ſerve as a general matrix for them; wherein they are all blended together, and fermented, or ſome way changed in their nature, ſo as to perform new offices, or recruit the vegetable, animal, and mineral kingdoms, when ſuch enriched vapours fall back again in rain or dew to the earth. See VAPOUR, RAIN, and DEW.

7. Hence may be conceived in general how all the changes, and phænomena, as meteors, exploſions, thunder, lightening, the aurora borealis, &c. happen in this great chaos of the atmoſphere, *viz.* according as floating particles of different kinds chance to meet, ſo as to form conſiderable aggregates or collections; and according as they are favoured by the requiſite degrees of heat, cold, drineſs, or moiſture. See the articles METEOR, EXPLOSION, THUNDER, &c.

As the various degrees of the heat and cold in the air is indicated by the thermometer, and its different weight, by the barometer, ſo its moiſture and drineſs is ſhewn by the hygrometer. See the article HYGROMETER.

Having conſidered the properties of the air, it is neceſſary to conſider alſo what corpuſcles are blended and contained in this heterogeneous fluid. And theſe are in reality almoſt infinite, of various natures, and entirely different in different parts of the atmoſphere. We may therefore conſider it as an univerſal chaos, in which corpuſcles of almoſt every kind, being confounded together, make up a compoſition conſiſting of the moſt different parts. For, 1. There is always, and every where, fire contained in the common air. See the article FIRE.

2. There is water contained always in the air, and in every part of it, and that in ſuch a manner, that it does not appear poſſible, by any known methods, to ſeparate the water entirely from it. Water is every moment perſpiring from every perſon in health, in an inviſible vapour. Sanctorius computes, that, in twenty-four hours time, there exhales from ſuch a perſon nearly the weight of five pounds, much the greateſt part of which is water. A vaſt quantity of aqueous ſteams muſt therefore be continually exhaling from animals of all kinds ſcattered all over the earth; and that all plants likewiſe ſend forth a dewy aqueous vapour, is a thing which has been long confirmed by obſervations; but the late learned and induſtrious Dr. Hales has, in his curious *Treatiſe of vegetable ſtatics*, reduced the vaſt quantity of aqueous vapours exhaling from plants to calculation. Dr. Halley, from obſervations made with the greateſt care and accuracy, has made it appear, that from the ſurface of the Mediterranean ſea alone, in one ſummer's day, there exhales, by the heat of the ſeaſon only, without any aſſiſtance from the

the wind, 52,800,000,000 tons of water. Hence the origin of ſprings and rivers. See the articles WATER, PERSPIRATION, SPRINGS, SEA, &c.

3. All the parts that we can obſerve in vegetables, are continually changing, and diſperſed throughout the atmoſphere. That the ſpirits of vegetables do always, and every where, exhale, and fill the air with a continual fragrance, no body can diſpute. And it is very certain, that the odour of plants, diſperſed through the vaſt tracks of air, often informs the mariners, before they diſcover land, of their approach to the ſhore. Hence then it follows, that whatever odoriferous ſpirits are at any time by nature produced in plants, all theſe are certainly, at length, contained in the air alone.

4. If we enquire whether the parts of animals are contained alſo in the air, we ſhall find there is a great quantity of exhaling ſpirits; and thoſe wholly peculiar to every animal, that are continually diſſipated and carried into the air from living animals, and adhere to other bodies; and by means of theſe ſpirits it is, that dogs, which purſue by ſcent, diſtinguiſh ſo accurately the animals from which they exhale; and how full the air is frequently of effluvia, exhaling from animals, appears evident from the infection too often obſervable in contagious diſtempers.

5. Foſſils are likewiſe diſcoverable in the air; for all foſſile-ſalts, however fixed, at laſt fly off in the air, if they are diſſolved in water, (eſpecially in that which they attract from the air) and are afterwards digeſted for a long time in a putrifying heat, then diſtilled with a great degree of fire, their reſiduum calcined in a ſtrong open fire, and then diſſolved in the air again. Do not the chemiſts convert, by different methods, many thouſand pounds weight of ſuch ſalt into acid volatile fumes, which they call ſpirit? And does not every ſuch chemical operation infect the very air? With regard to the principles, which are termed ſulphurs, theſe, whenever the foſſils are burnt, are entirely carried into the air, and, being intermixed with it, diſappear; the ſaline acid part changing into a ſuffocating fume, and the oleaginous part being attenuated by the action of the flame, and flying off in an inviſible or ſooty black vapour. It is very certain, that hardly any thing at all of theſe parts remains in the earth. Sulphur now itſelf, when alone, is carried into the air in form of an impalpable powder, and is there diſperſed about.

6. Metals themſelves have been found to be ſo far changed, that even thoſe, under a new form of a volatile fume, have been elevated and ſcattered in the air. This is univerſally known to be true of mercury, which, agitated only by a fire of 600 degrees, flies off, and becomes inviſible. And if the air, impregnated with it, ſurrounds, and is applied to, a human body, how wonderfully does it penetrate it, and how quickly does it raiſe a ſalivation! But beſides, while it thus flies off, it carries up and bears away with it ſome part of certain metals; as appears from the diſtillation of lead and tin with mercury.

If we examine into the manner in which nature operates, according to the laws which the great Creator has ordained, we ſhall plainly diſcover that this air is the grand, efficacious, and neceſſary inſtrument which nature univerſally employs in almoſt all the operations ſhe is perpetually engaged in. For in this, bodies of all kinds are placed; in this they move; and in this they perform all their actions, as well thoſe which proceed from their particular and private natures, as thoſe which depend upon their relation to other bodies. There is ſcarcely any liquid, as appears by experiment, which has not air intermixed with it; ſcarcely any ſolid out of which it may not be extracted by art. So that it is ſcarce poſſible to ſpecify any operation of nature, which happens without the aſſiſtance of air, or utterly excluſive of it: the operations of the loadſtone, gravity, and the particular attraction and repulſion of corpuſcles, may perhaps be alone excepted, as capable of being performed without it; to all others it is abſolutely neceſſary. All the operations of chemiſtry, without any exception, are performed in the air. In ſhort, ſuch is the generating and vivifying power of air, that ſome of the antient philoſophers conſidered it as the firſt principle of all things.

Air not only acts upon all bodies, by its common properties of weight and elaſticity, but by the peculiar virtues of the ingredients whereof it is compoſed. By means of a corroding acid it diſſolves iron and copper, unleſs well defended by oil. Even gold, in the chemiſts laboratory, when the air is impregnated with the effluvia of aqua regia, contracts a ruſt like other bodies. It fixes volatile bodies, and volatilizes

volatilizes thoſe which are fixed. See the article ACID.

From the different effluvias, diffuſed thro' the air, proceed a variety of effects. Near mines of copper, it will diſcolour ſilver and braſs; and in London, the air of which abounds with acid and corroſive particles, metalline utenſils ruſt ſooner than in the country. It is very difficult to obtain oil of ſulphur in a clear dry air, as its parts are then more ready to evaporate; whereas, in a moiſt cloudy air, it may be obtained in abundance. All ſalts melt moſt readily in cloudy weather; and ſeparations ſucceed beſt in the ſame ſtate of the air. If pure wine be carried into a place where the air is full of the fumes of wine then fermenting, it will begin to ferment afreſh.

AIR, in medicine, makes one of the ſix non-naturals, and that not the leaſt powerful. The very life of animals depends on it, as is proved by experiments in the air-pump; moſt animals being unable to live in the exhauſted receiver.

The wholeſomneſs or unwholſomneſs of air, is certainly owing to the different effluvia with which it abounds. Lord Bacon thinks the beſt air is to be met with in open champaign countries; where the ſoil is dry, not parched or ſandy, and ſpontaneouſly produces wild thyme, wild marjoram, and the like ſweet-ſcented plants. That near rivers he thinks rather prejudicial, unleſs they are ſmall, clear, and have a gravelly channel. The morning air is deemed more refreſhing than that of the evening, and air agitated with breezes, than that which is ſerene and ſtill.

As good air contributes greatly to health, ſo that which is bad is no leſs prejudicial to it. Stagnating air is productive of putrid and malignant diſorders, as dyſenteries, bilious fevers, *&c*; and that which is too moiſt, of inflammatory ones, as coughs, rheumatiſms, *&c.* Moiſt and rainy ſeaſons, however, differ widely in this reſpect; ſince in marſhy countries, intenſe and continued heats occaſion the greateſt moiſture in the air: whereas frequent ſhowers, during the hot ſeaſon, cool it, check the exceſs of vapour, dilute and refreſh the corrupted ſtagnating water, and precipitate all noxious and putrid effluvia.

AIR, in mythology, was adored by the heathens under the names of Jupiter and Juno; the former repreſenting the ſuperior and finer part of the atmoſphere, and the latter the inferior and groſſer part. The augurs alſo drew preſages from the clouds, thunder, lightening, *&c.*

AIR, in painting, *&c.* denotes the manner and very life of action; or it is that which expreſſes the diſpoſition of the agent. See the article ACTION.

It is ſometimes alſo uſed in a ſomewhat ſynonymous ſenſe with geſture or attitude.

AIR, in muſic, denotes the melody proper for ſongs, odes, and the like; being uſually quick and lively.

Sometimes it is uſed for the ſongs themſelves, called by the Romans *æra*, from which the modern term air is derived.

It is an obſervation of lord Bacon, that airs have ſome affinity with the affections of the mind: thus, there are merry airs, doleful airs, warlike airs, airs inclining to pity, *&c.* And hence we are to account for the great influence of muſic. But the ſame author remarks, that tho' this variety of airs diſpoſes the mind to a variety of paſſions conformable to them; yet, generally ſpeaking, muſic feeds that diſpoſition of the ſpirits which it finds.

AIRS, in the manege, are the artificial motions of taught horſes, as the demivolt; curvet, capriole, *&c.* See the articles VOLT, *&c.*

An air is defined to be a cadence and liberty of motion, accommodated to the natural diſpoſition of the horſe; making him riſe with obedience, meaſure, and juſtneſs of time.

Some even extend the meaning of the word to the natural paces of the horſe, as walking, trotting, gallopping; but the more exact writers reſtrain it to thoſe motions already mentioned.

AIR-BLADDER, the ſame with what ſome call the *ſwim*, or *ſwimming-bladder*; being a veſicle found in the bodies of all fiſhes; the cartilaginous, cetaceous, and perhaps a few other kinds excepted.

By this bladder, which is always more or leſs replete with air, the fiſh is enabled to ſuſtain its body at any depth. Near the bottom, the great weight of the incumbent water compreſſes the body of the fiſh, or rather the incloſed air-bladder, till it becomes equiponderant with an equal bulk of water. In the middle region, where the preſſure is leſs, the air-bladder expands; and thereby increaſes the bulk of the fiſh, without adding any thing to its weight, till it becomes equiponderant

ponderant with an equal bulk of water. As the fiſh continues to riſe, the air-bladder ſtill expands and ſuſtains it.

It is highly probable, that fiſhes have a power of expanding or compreſſing the air-bladder, excluſive of the weight of the water, and by that means of riſing, or ſinking, according as they dilate or compreſs the bladder.

Some fiſhes have only a ſingle air-bladder; others, a double one; and in others, it is triple, or divided into three cells. Fiſhes which lie grovelling at the bottom, have no air-bladders; and it is remarkable, that if the air-bladder be pricked or burſt, in fiſhes naturally furniſhed with it, they immediately ſink to the bottom, from whence they can never raiſe themſelves.

Air-gun, a machine for exploding balls by means of condenſed air.

Authors deſcribe two kinds of this machine, *viz.* the common one, and what is called the magazine air-gun.

The common air gun is made of braſs, and has two barrels; the innermoſt one K A (See plate IX. fig. 1.) being of a ſmall bore; and the other E C D R, larger. In the ſtock of the gun there is a ſyringe S M N P; by which the air is injected into the cavity between the two barrels, through the valve E P. The ball K is put down into its place, in the ſmaller barrel, with a rammer, as in other guns. At S L is another valve, which being drawn open by the trigger O, makes way for the air to get behind the ball, ſo as to drive it out with great violence.

By opening and ſhutting this valve ſuddenly, one charge of condenſed air will anſwer for ſeveral diſcharges, which are effected by means of a lock, repreſented in fig. 2.

Magazine Air-gun, that repreſented in fig. 3. where ſeveral balls are ſo lodged in the cavity or magazine E D, which is of a ſerpentine form, that they may be drawn into the ſhooting barrel by means of the hammer H, repreſented in fig. 5.

To make a diſcharge, pull the trigger Z Z (fig. 3.) which throws up the ſeer *y x*, and diſengages it from the notch *x* upon which the ſtrong ſpring W W moves the tumbler T, to which the cock is fixed. The end *u* of this tumbler bears down the end of the tumbling lever R, which by its other end *m*, raiſes the flat end of the horizontal lever Q; by which means the pin P p is pulled up, and opening the valve V, diſcharges the ball: all which is evident from a bare view of the figure.

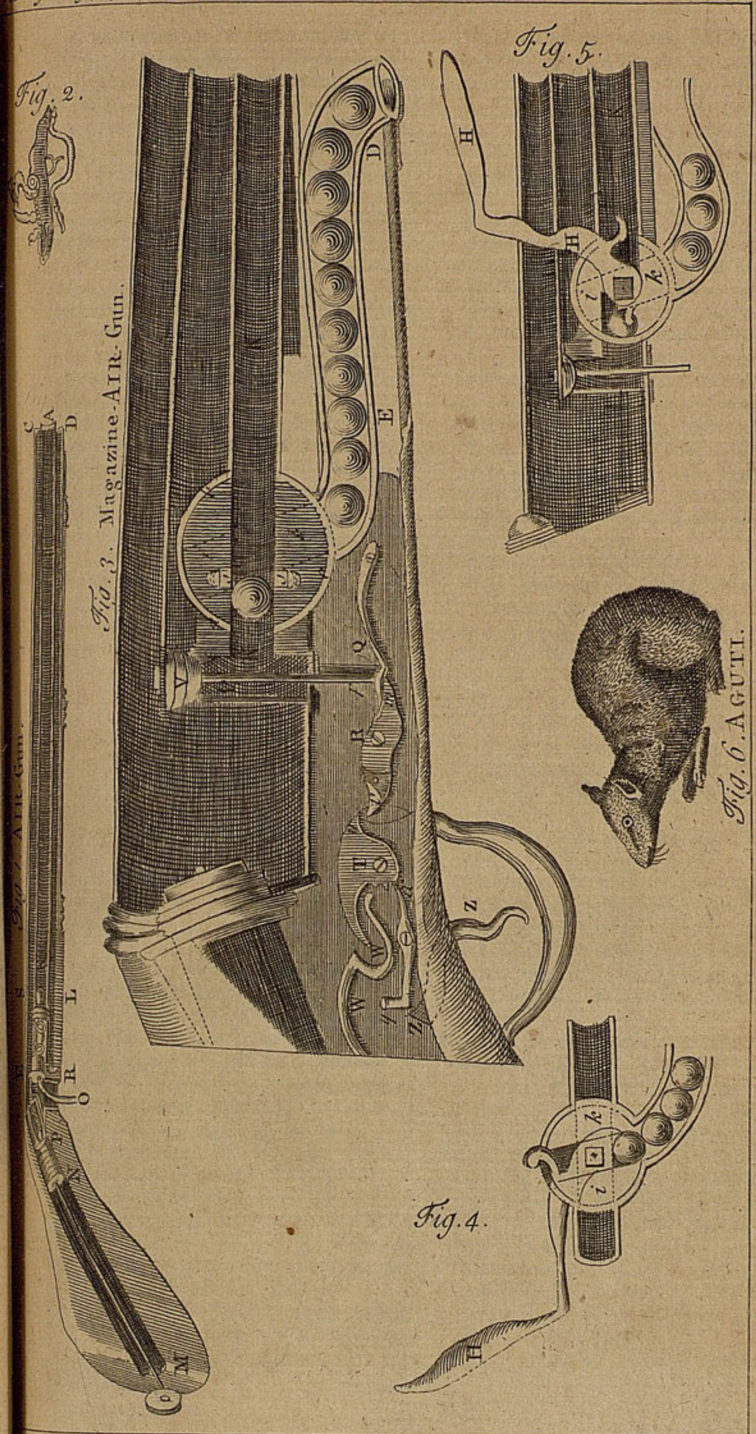
To bring another ball inſtantly to ſucceed, there is a part H, called the hammer, repreſented in fig. 4. 5. which turns the key of the cock, or circular part *a b c*, into any ſituation required. When a ball is in the gun the bore of this key coincides with that of the barrel K K, but when it is diſcharged, the hammer H is inſtantly brought down to ſhut the pan of the gun; by which motion, the bore of the key is turned into the ſituation *i k* (fig. 4.) ſo as to coincide with the orifice of the magazine; and upon lifting the gun upright, the ball next the key tumbles into its cavity, and falling behind two ſmall ſpring *s s* (fig. 3.) is by them detained. Then opening the hammer again, the ball is brought into its proper place, near the diſcharging valve, and the bore of the key again coincides with that of the ſhooting barrel.

Air-pump, a machine by which the air, contained in a proper veſſel, may be exhauſted, or drawn out.

Otto de Guerick, a burgo-maſter of Magdeburg, was the firſt inventor of this curious inſtrument: which was afterwards greatly improved by Mr. Boyle, Mr. Papin, and Mr. Hawkſbee.

That commonly uſed at preſent is repreſented in plate X, where A A are the two braſs barrels, in which the piſtons C C move up and down. The braſs tube or pipe, maked H. H, is called the ſwan's neck; thro' which the air paſſes from under the receiver O O, by a ſmall hole K, in the middle of the braſs plate I I, on the top of the pump, to a braſs piece in the box D D; which being perforated lengthwiſe to the middle point under each barrel, tranſmits the air by a bladder-valve to be pumped out. The mercurial gauge, which communicates with the receiver, is marked L L L. The ſtop-cock N, ſerves to readmit the air, when there is occaſion. B is the handle, or winch for working the pump. G, G, are two pillars ſupporting the frame of the pump-wheel, which is ſcrewed upon them by the two nuts E E. As to the uſes of the other parts, they will readily be comprehended by only inſpecting the figure.

The operation of this machine depends on the elaſticity of the air: for, by working the pump, the air in the receiver will expand itſelf: by which means part of it will be forced into the barrel of the pump, to



T. Jefferys sculp.

to be carried off. By thus continuing to work the pump, the air in the receiver will be gradually exhausted; but can never be wholly drawn out, so as to leave a perfect vacuum within the vessel: for it must be considered, that the air which is exhausted, is only pushed out by the spring of that which remains behind: if therefore, every particle were supposed to be exhausted, the last would be expelled without an agent; or there would be an effect without a cause, which is absurd.

Portable AIR-PUMP, one so contrived as to be easily carried from one place to another. Its description may be seen in plate XI. fig. 1. where A B is the head, or part containing the wheel, which alternately raises and depresses the pistons C, D, in the barrels E, F. On the bottom, I K L stands the receiver M N. The piece for carrying off the air is marked O, and communicates with the perforated brass-piece on which the barrels stand, and from which they receive the air to be exhausted. P Q is a small receiver, under which is a bason of mercury R, with a tube hermetically sealed R S; the fall of the mercury in which tube, serves to indicate the degree of exhaustion. The stop-cock T is designed to let the air again into the receiver.

Smeaton's AIR-PUMP. See the article PUMP.

AIR-SHAFTS, among miners, are holes made from the open air to meet the adits, and supply them with fresh air.

These, when the adits are long, or exceeding thirty or forty fathom, become highly necessary, as well to give vent to the damps and noxious vapours, as to let in fresh air.

AIR-THREADS, in natural history, a name given to the long filaments so frequently seen in autumn floating about in the air.

These threads are the work of spiders, especially the long-legged field-spider; which having mounted to the summit of a bush or tree, darts from its tail several of these threads, till at length it produces one capable of sustaining it in the air: on this it mounts in quest of prey, and frequently rises to considerable heights.

When a spider has thus raised itself, it does not descend always by the same thread; but winding that up, it darts out another, more or less long, as it is intended for a higher or lower flight.

AIR-VESSELS, in plants, certain vessels, or ducts, for imbibing and conveying air to the several parts of a plant.

That all plants contain air is certain, but that they are furnished with distinct organs, answering to the tracheæ and lungs of animals, has not been sufficiently proved. Even the ingenious Dr. Hales speaks doubtfully on this head, proposing his sentiments by way of question, whether the use of those spiral wreaths, coiled round the insides of the vessels supposed to convey the air, and manifest in the leaves of the vine and scabious, may not be to promote the quicker ascent of air, by conforming in some degree to its elastic contortions.

AIRA, in botany, a genus of the *triandria digynia* class of plants, the corolla whereof is composed of two valves, extremely resembling those of the cup; one of these often produces an arista, near twice as long as the flower; the corolla serves the office of a pericarpium, and incloses the seed, which is single, and of an oval figure.

There are some species of this genus, in which male flowers are mixed with the hermaphrodite ones under the same common cup: in this case, the male flower produces an arista, whereas the female does not.

AIRE, in geography, the name of two towns of France, the one situated in the province of Gascony, about sixty-five miles south of Bourdeaux; and the other in Artois, about thirty miles S. E. of Calais.

AIRE is also a sea-port town in Scotland, situated in W. longitude 4° 40′ and N. latitude 55° 30′. at the mouth of a river of the same name which discharges itself into the frith of Clyde.

AIRESHIRE, a county of Scotland, the capital of which is the town of Aire. It lies eastward of the mouth of the frith of Clyde.

AIRING, a term peculiarly used for the exercising horses in the open air; the advantage of which to these noble and useful animals, no body will dispute. Their masters in this, as well as in many other respects, are more mindful of the health of these valuable creatures than of their own. It were well, if this neglect could be called a sacrifice to public or private business; but when no such cause can be assigned, would it not be highly commendable, as well as salutary, for gentlemen to air themselves at the same time with their horses?

AIRY, or AERY, among sportsmen, a term

term expreffing the neft of a hawk or eagle.

AIRY TRIPLICITY, among aftrologers, denotes the three figns Gemini, Libra, and Aquarius.

AISIAMENTA, in law, the fame with eafement. See the article EASEMENT.

AISNE, or AISE, a river of France, which rifes on the frontiers of Lorrain, near Clermont, and falls into the Oyfe, a little below Soifons.

AITOCZU, a confiderable river of leffer Afia, which, arifing in the mountain Taurus, falls into the fouth part of the Euxine fea.

AJUGA, BUGLE, in botany, a genus of the *didynamia-gymnofpermia* clafs of plants: the flower is monopetalous and ringent; the upper lip being fmall, and bifid; the lower one, large and trifid: there is no pericarpium: the feeds are contained in the cup of the flower, and are four in number.

The flowers and leaves of bugle are faid to be good in fluxes, in retention of urine, and in hernias.

AJUSTING, or ADJUSTING, among ecclefiaftical writers, the fame with accommodation. See ACCOMMODATION.

AJUTAGE, or ADJUTAGE, a kind of tube fitted to the mouth of the veffel, through which the water of a fountain is to be played.

To the different forms and ftructures of adjutages, is owing the great variety of fountains. See the article FOUNTAIN.

AIX, in geography, the name of feveral places, *viz.* of a large city of France, the capital of Provence; of a fmall town of Savoy, about eight miles north of Chamberry; of an ifland on the coaft of Gafcony, between that of Oleron and the main land; and of a village of Champagne, fituated in the generality of Chalons.

AIX-LA-CHAPELLE, otherwife called *Aach, Ach* and *Aken*, an imperial city of Germany, in the dutchy of Juliers.

It is large and populous; being much reforted to by foreigners as well as by Germans, on account of its hot baths.

AIZOON, in botany, a genus of the icofandria pentagynia clafs of plants, the calyx of which is a permanent perianthium, formed of a fingle leaf, divided into five lanceolated fegments: there is no corolla: the fruit is a ventricofe capfule, of a pentagonal figure, and formed into five cells: the feeds are numerous and roundifh.

AKOND, in the perfian affairs, the chief judge in all cafes of contracts and other civil tranfactions. He is at the head of the lawyers, and has his deputies in all courts of the kingdom.

AL, an arabic particle prefixed to words, and fignifying much the fame with the englifh particle *the*: thus they fay alkermes, alkoran, *&c. i. e.* the kermes, the koran, *&c.*

AL, or ALD, a faxon term frequently prefixed to the names of places, denoting their antiquity, as Aldborough, Aldgate, *&c.*

ALA, a latin term, properly fignifying a wing; from a refemblance to which, feveral other things are called by the fame name: thus,

ALÆ, in anatomy, is fometimes ufed for the lobes of the liver, the nymphæ of the female pudendum, the two cartilages which form the noftril, the arm-pits, young ftems or branches, *&c.*

ALA, in botany, is ufed in different fenfes; fometimes it denotes the hollow between the ftalk of a plant, and the leaves; fometimes it is applied to the two fide petals of the papilionaceous flowers, the upper petal being called the *vexillum*, and the lower one the *carina*; others ufe it for the flender membranaceous parts of fome feeds, thence faid to be alated; and others, again, for the membranaceous expanfions, found on the ftems of plants, thence denominated, alated ftalks.

ALABASTER, *alabaftrites*, in natural hiftory, the name of a genus of foffils, nearly allied to the marbles; being elegant ftones of great brightnefs, but brittle, and not giving fire with fteel: they ferment with acids, and readily calcine in the fire.

Naturalifts enumerate three fpecies of alabafter: 1. A white kind, called *lygdinum marmor*, by the antients. 2. A yellowifh white kind, called by the antients *phengites*. 3. A yellow and reddifh kind, called fimply *alabafter* by the antients.

The laft kind, or alabafter of the antients, which is ftill found in Egypt, and even in Cornwall, is an extremely beautiful ftone; being elegantly variegated with veins of a pale reddifh, whitifh, or brown colour, upon a clear, pale, yellow ground, from whence it was fometimes called *onyx*, and *onychites*.

The alabafters are much ufed by ftatuaries, for fmall ftatues, vafes, and columns; as they cut fmoothly, and take a beautiful polifh. Sometimes they are employed like plafter of Paris, after being

ing firſt calcined to a fine powder. This they mix up with water to a thin conſiſtence, caſting it in a mould, where it readily coagulates into a firm body.

ALABASTER, in antiquity, a term not only uſed for a box of precious ointment, but alſo for a liquid meaſure, containing ten ounces of wine, or nine of oil.

Some will have the alabaſter-box, mentioned in the goſpels, to have been of glaſs, and to have been called alabaſter from its holding the meaſure expreſſed by that name.

ALABASTRUM *dendroide*, the name of a ſpecies of laminated alabaſter, beautifully variegated with the figures of trees, ſhrubs, *&c.*

ALADULIA, in geography, the moſt eaſterly diviſion of Leſſer Aſia, comprehending the antient Cappadocia and Armenia Minor.

ALAIS, a conſiderable town of France, in the province of Languedoc, ſituated on the river Gardon, at the foot of the Cevennes.

ALALCOMENIUS, in grecian antiquity, the bœotian name of the month called by the Athenians *mæmacterion*. See the article MÆMACTERION.

ALAMIRE, or A-LA-MI-RE, among muſicians, a note of the modern ſcale of muſic. See the article SCALE.

ALAMODE, in commerce, a thin, gloſſy, black ſilk, chiefly uſed for women's hoods, and mens mourning ſcarfs.

ALAND, or ALANDT, an iſland of the Baltic ſea, ſituated between 18 and 20° eaſt longitude, and between 59 and 61° of north latitude.

ALANORARIUS, in our old cuſtoms, was a keeper of ſpaniels, ſetting-dogs, *&c.* for the uſe of ſportſmen.

The word is derived from *alan*, a gothic term for a greyhound.

ALARAF, among mahometans, denotes the partition-wall which ſeparates heaven from hell; though ſome uſe it in a larger ſenſe for a limbus, or middle ſtate, wherein thoſe whoſe good and evil actions exactly balance each other, enjoy neither happineſs nor miſery.

ALARBES, or ALARABES, a name given to thoſe Arabians who live in tents, and diſtinguiſh themſelves by their dreſs from the others who live in towns, than whom they pretend to be more conſiderable.

ALARES, in roman antiquity, an epithet given to the cavalry, on account of their being placed in the two wings, or alæ, of the army. Though ſome will have the term to have denoted a kind of light-armed ſoldiers, ſo called from their agility and ſwiftneſs.

ALARES *muſculi*, in anatomy, the latin name of the muſcles more uſually called *pterygoidæ*. See PTERYGOIDÆUS.

ALARM, in the military art, denotes either the apprehenſion of being ſuddenly attacked, or the notice thereof ſignified by firing a cannon, fire-lock, or the like.

Falſe alarms are frequently made uſe of to harraſs the enemy, by keeping them conſtantly under arms. Sometimes alſo this method is taken to try the vigilance of the piquet-guard, and what might be expected from them in caſe of real danger.

ALARM-BELL, that rung upon any ſudden emergency, as a fire, mutiny, or the like.

ALARM-POST, or ALARM-PLACE, the ground for drawing up each regiment, in caſe of an alarm. This is otherwiſe called the rendezvous.

ALARM is alſo the name of an inſtrument for wakening people, by making a noiſe, letting fall a weight upon them, or even pulling them. A ſimple one of this kind may be thus made: let a pack-thread, ſupporting a weight, be ſo placed againſt a candle, that it may be burnt at a certain hour; on which the weight will fall and waken the perſon.

ALATAMAHA, a large river of North America, which, riſing in the apalachian mountains, runs ſouth-eaſt, thro' the province of Georgia, and falls into the Atlantic ocean below the town of Frederica.

ALATED *leaves*, among botaniſts, thoſe made up of ſeveral pinnated ones, as in the *orobus*. See the article PINNATED.

ALATERNUS, in botany, a ſpecies of rhamnus. See the article RHAMNUS.

Its flower conſiſts of one funnel-like leaf, divided into four deep ſegments; and the fruit is a berry, containing for the moſt part three ſeeds, globoſe on one ſide, and angular on the other. See plate XI. fig. 2.

ALAUDA, the LARK, in ornithology, a diſtinct genus of birds of the order of the *paſſeres*, the characters of which are theſe: the tongue, which is membranaceous and pointed, has a rim or margin round it; the beak is ſtrait, and pointed; the two chaps equal in ſize; and the claw of the hinder toe longer than any of the other toes. See the article LARK.

ALAUDA, in ichthyology, the name by which ſome writers call ſeveral ſpecies of

blennius, particularly the mulgranoc. See plate XI. fig. 3, and the article BLENNIUS.

ALAUTA, a confiderable river of Turky in Europe, which, after watering the north-eaft part of Tranfylvania and part of Wallachia, falls into the Danube almoft oppofite to Nicopolis.

ALB, or ALBE, *alba*, in the romifh church, a veftment of white linen, hanging down to their feet, and anfwering to the furplice of our clergy. In the antient church, it was ufual with thofe newly baptifed, to wear an alb, or white veftment; and hence the Sunday after eafter was called *dominica in albis*, on account of the albs worn by thofe baptifed on eafter-day.

ALBA *firma*, or ALBUM, in our old cuftoms, denoted rent paid in filver, and not in corn, which was called black-mail.

ALBA *terra*, one of the many names by which alchemifts call the philofopher's ftone, faid to be compounded of mercury and fulphur.

ALBANI, in roman antiquity, a college of the *falii*, or priefts of Mars, fo called from mount Albanus, the place of their refidence. See the article SALII.

ALBANIA, a province of Turky in Europe, fituated on the eaft-fide of the gulph of Venice.

ALBANO, a town of Italy, in the Campagna di Roma, about twelve miles fouth-eaft of Rome. E. lon. 13°, N. lat. 41° 45′.

ALBANS, or ST. ALBANS, a town of Hertfordfhire, fituated about twenty miles north-weft of London. It returns two members to parliament, and gives the title of duke to the noble family of Beauclerc: north lat. 51° 40′.

ALBANY, a town of North America, in the province of New York, fituated on Hudfon's river, in 74° of weft longitude, and 43° north latitude.

ALBARA, or ALBORA, among antient phyficians, a malignant kind of itch, approaching to the leprofy. See the articles ITCH, and LEPROSY.

ALBARAZIN, a town of Spain, in the kingdom of Aragon, fituated upon the river Guadalavir, about one hundred and ten miles eaft of Madrid.

ALBEMARLE, a town of France, in the province of Normandy, from whence the noble family of Keppel takes the title of earl. E. long. 2°, N. lat. 49° 45′.

ALBEMARLE is alfo the name of the moft northerly diftrict of North Carolina, See the article CAROLINA.

ALBENGA, a fea-port town of Italy, fituated on the Mediterranean fea, about fifteen miles north-eaft of Oneglia.

ALBIGENSES, in church hiftory, a fect of chriftians, which appeared in the XIIth and XIIIth centuries. They are ranked among the groffeft of heretics, the manicheans, by roman catholics; from which charge proteftants generally acquit them, though with fome limitation. See the article MANICHEES.

At the time of the reformation, thofe of the albigenfes who remained, embraced calvinifm. See the article CALVINISTS.

ALBION, the antient name of Britain. See the article BRITAIN.

ALBORAK, among the mahometan writers, the beaft on which Mahomet rode, in his journies to heaven.

The Arab commentators give many fables concerning this extraordinary vehicle. It is reprefented as of an intermediate fhape and fize, between an afs and a mule. A place, it feems, was fecured for it in paradife, at the interceffion of Mahomet; which, however, was, in fome meafure, extorted from the prophet, by Alborak's refufing to let him mount him, when the angel Gabriel was come to conduct him to heaven.

ALBOURG, or ALBURG, a fea-port town of north Jutland, in the kingdom of Denmark.

ALBRET, or ALBRIT, a fmall town of France, in the province of Gafcony, about thirty-five miles fouth of Bourdeaux.

ALBUGINEA *tunica*, in anatomy, the third or innermoft coat of the tefticles, fo called from its white colour.

It is a ftrong thick membrane, very fmooth on the outer furface; the inner, which adheres to the fubftance of the tefticle, being rough and uneven. Into its upper part are inferted blood veffels, nerves, and lymphatics, which from thence fend divers branches into the fubftance of the tefticles.

Albuginea is alfo a name fometimes given to one of the coats of the eye, otherwife called *adnata*. See the article ADNATA.

ALBUGINEUS, an appellation given by fome to the aqueous humour of the eye. See the article EYE.

ALBUGO, among phyficians, denotes a diftemper of the eye, caufed by a white, denfe, and opaque fpot growing upon the *tunica cornea*, and obftructing the fight. It is otherwife called *leucoma*. See the article LEUCOMA.

ALBULA, in ichthyology, a name given by

by different authors to very different fishes; particularly to the *cyprinus* with twenty bones in the belly-fin, and to several species of *coregonus*. See the articles CYPRINUS and COREGONUS.

The *albula nobilis*, or coregonus with fourteen rays in the back-fin, is represented in plate XI. fig. 4.

ALBUM, in antiquity, a kind of table, or register, wherein the names of certain magistrates, public transactions, *&c.* were entered. Of these there were various sorts, as the *album senatorum*, *album judicum*, *album prætoris*, &c.

ALBUM *græcum*, among physicians, denotes the white dung of dogs, said to be good for inflammations of the throat; but little regarded at present.

ALBUM *oculi*, the white of the eye; otherwise called *albuginea* and *adnata*.

ALBUMEN, the term used by medical writers for the white of an egg. See the article EGG.

The *albumina*, or whites of eggs, are, on account of their agglutinating and cooling quality, used in collyriums for the eyes; also for burns, and in some mixtures with bole armoniac for fresh wounds. Boiled with any liquor, they serve to clarify it; for being thereby hardened, they carry off with them the gross and feculent parts.

Distilling the albumen by a retort in a sand heat, till it be brought to a dryness, it yields an incredible quantity of water, which has most of the properties of the whole mass.

The white of an egg makes an extraordinary menstruum. Being boiled hard in the shell, and afterwards suspended in the air by a thread, it resolves and drops down into an insipid scentless liquor, which appears to be that anomalous unaccountable menstruum, so much used by Paracelsus; and will, though it contain nothing sharp, oleaginous, or saponaceous, make a thorough solution of myrrh; which is more than either water, oil, spirits, or even fire itself, can effect.

ALBUQUERQUE, a city of Spain, in the kingdom of Leon and province of Estremadura, situated on the frontiers of Portugal. W. long. 7°, N. lat. 39°.

ALBURN, the english name of a compound colour, being a mixture of white and red, or reddish brown.

ALBUS *piscis*, a name sometimes used for a species of *cyprinus*, with large eyes and an acute rostrum. See CYPRINUS.

ALBY, or ALBI, a city of France, in the province of Languedoc, situated in 40° east longit. and 43° 50′ north lat.

ALCA, in ornithology, a genus of birds of the order of the anseres: the beak is of a convex and compressed figure; and is incurvated and furrowed in a transverse direction; the feet stand very backward, and have each three toes.

ALCACER *de Sal*, or ALCAREZ, a town of Portugal, in the province of Estremadura, about forty-five miles south-east of Lisbon. W. long. 9°, N. lat. 38° 30′.

ALCAICS, in antient poetry, a denomination given to several kinds of verse, from their inventor Alcæus.

The first kind consists of five feet, *viz.* 1. a spondee or iambic: 2. an iambic: 3. a long syllable: 4. a dactyl: 5. a dactyl: such is the following verse of Horace,

Omnes | *eo*|*dem*| *cogimur*,| *omnium*
Versatur urna, &c.

The second kind consists of two dactyls, and two trochees: such is

Exili|*um impos*|*tura* | *cymbæ*.

Besides these two, which are called dactylic alcaïcs, there is another termed simply alcaïc, and consisting of, 1. an epitrite; 2. a coriambus; 3. a coriambus; 4. a bacchius: thus,

Cur timet fla|*vum Tiberim*| *tangere, cur*|
olivum ?

ALCAIC *ode*, a kind of manly ode, composed of several strophes, each consisting of four verses, the two first of which are always alcaïcs of the first kind; the third verse is an iambic dimeter hypercatalectic, that is, it consists of four feet and a long syllable: and the fourth verse is an alcaïc of the second kind: such is the following strophe of Horace, who calls this kind of poetry *minaces Alcæi camenæ*.

Non possidentem multa vocaveris
Rectè beatum: rectiùs occupat
Nomen beati, qui deorum
Muneribus sapienter uti, &c.
Lib. IV. Od. ix. ver. 45.

ALCAID, ALCAYDE, or ALCALDE, in the polity of the Moors, Spaniards, and Portuguese, a magistrate, or officer of justice, answering nearly to the French prevost, and the british justice of peace.

The alcaid, among the Moors, is vested with supreme jurisdiction, both in civil and criminal cases.

ALCALA *de Guadiara*, a town of Spain, in the province of Andalusia, about six miles south of Seville.

ALCALA *de Henares*, a town of Spain, in the province of New Castile, about sixteen miles east of Madrid.

ALCALA *de Real*, a city of Spain, in the province of Andalusia, about fifteen miles north-west of the city of Granada.

ALCALY, or ALKALY, in chemistry, &c. See the article ALKALY.

ALCANNA, in commerce, a powder prepared from the leaves of the egyptian privet, in which the people of Cairo drive a considerable trade. It is much used by the turkish women, to give a golden colour to their nails and hair. In dying, it gives a yellow colour, when steeped with common water, and a red one, when infused in vinegar. There is also an oil extracted from the berries of alcanna, and used in medicine as a calmer.

ALCANTARA, a city of Spain, in the province of Estremadura, on the frontiers of Portugal. W. lon. 7°, N. lat. 39° 10′.

Knights of ALCANTARA, a military order of Spain, which took its name from the abovementioned city.

The Spanish antiquaries vary much in their accounts of this order. The Jesuit Mendo fixes its origin in 1156, Barbosa in 1176. The chronicles of the order relate, that Ferdinand king of Leon took it under his protection in 1176; that pope Alexander III. confirmed it the year following; that Lucius III, in 1184, gave it the order of St. Benedict; and that Nugnez Ferdinand, in 1218, gave it the city Alcantara, from whence it took the name. Carro de Forres, and Franc. de Bades affirm, that it was at first called the order of St. Julian del Pereyro, from the name of the city where it was founded; but that the precise year of its institution is not known.

The knights of Alcantara make the same vows as those of Calatrava, and are only distinguished from them by this, that the cross fleurdelisce which they bear over a large white cloak, is of a green colour: they possess thirty-seven commendaries. By the terms of the surrender of Alcantara to this order, it was stipulated, that there should be a confraternity between the two orders, with the same practices and observances in both; and that the order of Alcantara, should be subject to be visited by the grand master of Calatrava. But the former soon got free from this engagement, on pretence that their grand master had not been called to the election of that of Calatrava, as had been likewise stipulated in the articles.

The knights of Alcantara make a very considerable figure in the history of the expeditions against the Moors.

ALCARAZ, a town of Spain, in the province of New Castile, situated on the river Guadarema, W. lon. 3°, N. lat. 38° 3′.

ALCAZAR *de Sal*, a small town of Portugal, in the province of Estremadura, near the confines of that of Alantejo.

ALCE, the elk, in zoology. See ELK.

ALCEA, VERVAIN-MALLOW, in botany, a genus of the monadelphia polyandria class of plants, the calyx of which is a double perianthium; the exterior one, which is permanent, consists of a single patent leaf, divided into six segments; the interior is also permanent, and consists of a single leaf divided into five segments: the corolla consists of five very large patent and emarginated petals, growing together at the base: the fruit is composed of numerous capsules, each containing a single compressed kidney-shaped seed. See plate XII. fig. 1.

ALCHEMIST and ALCHEMY. See the articles ALCHYMIST and ALCHYMY.

ALCHIMILLA, or ALCHEMILLA, LADIES-MANTLE, in botany, a genus of the tetrandria monogynia class of plants, the calyx of which is a single-leaved perianthium: there is no corolla, nor any pericarpium; the cup finally becomes a capsule, containing a single elliptical and compressed seed. See plate XII. fig. 2.

The alchimillas are esteemed powerful vulneraries and incrassants: they are likewise said to have considerable efficacy in stopping the floodings of the menses and fluor albus; and some apply them externally in a *vomica pulmonum*.

ALCHYMIST, or ALCHEMIST, a person who professes or practises alchymy. See the next article.

The office of alchymists, as assigned by some authors, is of great extent: to them it belongs to explain the principles, the properties, and qualities of all metals, and the several alterations these are capable of; to teach the manner of converting impure and gross metals into gold and silver; to give even to precious stones the degree of perfection they want; to preserve the human body in perfect vigour, and cure the most dangerous and desperate deseases incident thereto.

ALCHYMY, or ALCHEMY, denotes the higher or more secret parts of chemistry. See the article CHEMISTRY.

The principal objects of alchymy are these, 1. The making of gold. 2. An universal medicine, or panacea. 3. An universal

verſal diſſolvent, or alkaheſt. And, 4. An univerſal ferment. See the articles PANACEA, ELIXIR, and ALKAHEST.

As to the making of gold, it has been attempted three different ways, by ſeparation, by maturation, and by tranſmutation; which laſt they pretend to effect by means of the philoſopher's ſtone. See the article PHILOSOPHER'S *ſtone*.

Kircher tells us, that the antient Egyptians were great adepts in alchymy; but that they had no need to tranſmute the baſer metals into gold, as having ways to ſeparate it from all kinds of bodies, even the mud of the Nile.

Be this as it will, modern alchymiſts, who pretend to tranſmute metals into gold, are a ſet of arrant cheats: they put into a crucible the metal to be changed into gold; then ſet it on the fire, blow, and ſtir it with rods; and, after a great deal of farce, gold is at length found in the bottom of the crucible, inſtead of the matter put in. But this there are ſeveral ways of effecting without a tranſmutation of one metal into another: ſometimes it is done by ſecretly dropping in a piece of gold; ſometimes by caſting in ſome gold duſt under the appearance of ſome elixir, or the like; ſometimes a crucible is uſed with a double bottom, and gold concealed between them; ſometimes the rod, employed to ſtir the metal, is hollow, and filled with gold-duſt; and at other times ſome gold-duſt is mixed with the charcoal, the aſhes of the furnace, and the like. By ſo many ways do theſe charltons impoſe upon mankind, who are nevertheleſs ſo exceſſively credulous as to believe them.

ALCHYMY is alſo ſometimes, though in a leſs proper ſenſe, uſed for common chemiſtry. See the article CHEMISTRY.

ALCMAER, a town of north Holland, remarkable for the fine paſtures in its neighbourhood, and the great quantities of butter and cheeſe made there.

ALCMANIAN, in antient lyric poetry, a kind of verſe, conſiſting of two dactyls and two trochees, as

Virgini|bus pue|riſque |canto.

ALCOBACA, a ſmall town of Portugal, in the province of Eſtremadura: it is defended by a pretty ſtrong caſtle; but what makes it moſt remarkable is the abbey of St Bennet, which is the burying-place of moſt of the kings of Portugal.

ALCOHOL, or ALKOOL, in chemiſtry, denotes ſpirit of wine rectified by repeated diſtillations, till it has acquired the utmoſt ſubtilty and perfection of which it is capable. See the article SPIRIT.

Pure alcohol is the lighteſt of all fluids next to air; it is extremely thin, pellucid, and ſimple; it is wholly inflammable, leaving no phlegm or fæces behind. It is a great reſiſter of putrefaction, and therefore uſed to preſerve various animals, which being ſuſpended in it, will continue entire for many ages.

ALCOHOL alſo denotes a very fine impalpable powder.

ALCOHOL *martis*, filings of ſteel reduced to an impalpable powder, by turning it into ruſt with urine, then levigating it, and mixing it with a large quantity of water, that is, about a gallon, to two pounds and a half of filings. After it has ſtood a quarter of an hour, the upper part to the water is to be poured off, and evaporated to a dryneſs. The powder at the bottom is to be put into a paper, in the form of a ſugar-loaf, and waſhed, by gradually pouring in hot water, till it is freed from the urinous ſalts: with regard to the remaining groſs powder, the ſame proceſs is to be repeated over again.

To bring the gout back from the noble parts of the joints, Muſgrave has a great opinion to this remedy: he preſcribes it thus: take of alcohol martis from five to ten grains, theriaca andromachi from half a ſcruple to one dram, mix theſe with as much ſyrup of clove july-flower as is ſufficient to make a bolus. See GOUT.

ALCOHOLIZATION, among chemiſts, the proceſs of rectifying any ſpirit, or reducing it to a perfect alcohol.

Alcoholization is ſometimes uſed in a ſynonymous ſenſe with pulverization. See the article PULVERIZATION.

ALCORAN, or ALKORAN, the name of a book held equally ſacred among the mahometans as the bible is among chriſtians.

The word *alkoran* properly ſignifies reading; a title given it by way of eminence, juſt as we call the old and new teſtament *ſcriptures*.

That Mahomet was the author of the alcoran is allowed both by chriſtians and the mahometans themſelves; only the latter are fully perſuaded that it was revealed to him by the miniſtry of the angel Gabriel; whereas the former, with more reaſon, think it all his own invention, aſſiſted by one Sergius a chriſtian monk. The Alcoran is held not only of divine original, but eternal and uncreated, remaining, as ſome expreſs it, in the very eſſence of God. The firſt tranſcript has been from

from everlafting by God's throne, written on a table of vaft bignefs, in which are alfo recorded the divine decrees, paft and future. A copy from this table, in one volume, on paper, was fent down to the loweft heaven, in the month of Ramadan, on the night of power. From whence it was delivered out to Mahomet by parcels, fome at Mecca, and fome at Medina. Though he had the confolation of feeing the whole once a year, and in the laft part of his life twice. Ten new chapters were delivered entire, the greater part only in feparate periods, which were written down from time to time by the the prophet's amanuenfis, in this or that part, of this or the other chapter, as he directed. The firft parcel that was revealed, was the five firft verfes of the ninety-fixth chapter, which the prophet received in a cave of Mount Harah, near Mecca.

The general aim of the Alcoran was, to unite the profeffors of the three different religions, then followed in Arabia, Idolaters, Jews, and Chriftians, in the knowledge and worfhip of one God, under the fanction of certain laws, and the outward figns of ceremonies, partly of antient, and partly of novel inftitution, enforced by the confideration of rewards and punifhments, both temporal and eternal, and to bring all to the obedience of Mahomet, as the prophet and embaffador of God, who was to eftablifh the true religion on earth, and be acknowledged chief pontiff in fpiritual matters. The chief point therefore inculcated in the Alcoran, is the unity of God, to reftore which, the prophet confeffed was the chief end of his miffion. The reft is taken up in prefcribing neceffary laws and directions, frequent admonitions to moral and divine virtues, the worfhip and reverence of the fupreme being, and refignation to his will. One of their moft learned commentators diftinguifhes the contents of the Alcoran, into allegorical and literal; under the former are comprehended all the obfcure, parabolical, and ænigmatical paffages, with fuch as are repealed, or abrogated; the latter, fuch as are clear, and in full force.

As to the book itfelf, as it now ftands, it is divided into an hundred and fourteen *furas* or chapters, which are again divided into fmaller portions or verfes. But befides thefe divifions, mahometan writers farther divide it into fixty equal portions, called *bizb* or *hazab*, each of which they fubdivide into four parts.

After the title at the head of each chapter, except the ninth, is prefixed the formula, "In the name of the moft merciful God;" called by the Mahometans *Bifmallah*, wherewith they conftantly begin all their books and writings, as the diftinguifhing mark of their religion.

Twenty-nine of the chapters of the Alcoran have this further peculiarity, that there are certain letters of the alphabet prefixed to them. In fome a fingle letter; in others, two or more. Thefe letters are fuppofed, by the true believers, to conceal divers profound myfteries, the underftanding whereof has been communicated to no man, their prophet excepted. Yet fome have pretended to find their meaning, by fuppofing the letters to ftand for fo many words, expreffing the names, attributes, and works of God. Others explain thefe letters from the organ made ufe of in their pronunciation; others from their value in numbers. Thus there are five chapters, whereof one is the fecond, which begins with thefe letters, *A, L, M.* which fome imagine to ftand for *Allah, Latif, Magid*; God is gracious, and to be glorified. Others for *Ana, Li, Minni*; To me, and from me, *viz.* belongs all perfection, and proceeds all. Others for *Ana, Allah, Alam*; I am the moft wife God. Taking the firft letter to denote the beginning of the firft word, the fecond the middle of the fecond, and the third the laft of the third word. Others for *Allah, Gabriel, Mahomet*: the firft, the author; the fecond, the revealer; the third, the preacher of the Alcoran. Others pretend, that as the letter *A* belongs to the lower part of the throat, the firft of the organs of fpeech; *L* to the palate, the middle organ, and *M* to the lips, the laft organ; fo thefe letters denote, that God is the beginning, middle, and end. Others, that as the numerical value of thefe three letters is feventy-one, they denote, that in the fpace of fo many years, the religion preached in the Koran fhall be fully eftablifhed. Golius conjectures, that thefe letters were put there by the copyift; for *Amar li Mahomede*, *i. e.* at the command of Mahomet.

The Alcoran is allowed to be written with the utmoft elegance and purity of language, in the dialect of the Koreifhites, the moft noble and polite of all the Arabians, but with fome mixture of other dialects. It is the ftandard of the Arabic tongue, and as the orthodox believe, and are taught by the book itfelf, inimitable by

by any human pen; and therefore insisted on a as permanent miracle, greater than that of raising the dead, and alone sufficient to convince the world of its divine original; and to this miracle did Mahomet himself chiefly appeal, for the confirmation of his mission, publicly challenging the most eloquent schoolmen in Arabia, to produce a single chapter comparable to it. A late ingenious and candid writer, who is a very good judge, allows the style of the alcoran to be generally beautiful and fluent, especially where it imitates the prophetic manner, and scripture phrase; concise, and often obscure; adorned with bold figures, after the eastern taste; enlivened with florid and sententious expressions; and, in many places, especially where the majesty and attributes of God are described, sublime and magnificent.

To the pomp and harmony of expression some ascribe all the force and effect of the alcoran; which they consider as a sort of music, equally fitted to ravish and amaze, with other species of that art. In this Mahomet succeeded so well, and so strangely captivated the minds of his audience, that several of his opponents thought it the effect of witchcraft and enchantment, as he himself complains.

So numerous are the commentaries on the alcoran, that a catalogue of their bare titles would make a volume, we have a very elegant translation of it into english by Mr. Sale; who has added a preliminary discourse, with other occasional notes, which the curious may consult on this head.

Alcoran is also used, in a more limited sense, for a part or chapter of the alcoran.

ALCORAN, in a figurative sense, is an appellation given to any books full of impostures, or impiety.

ALCORAN, among the Persians, is also used for a narrow kind of steeple, with two or three galleries, where the priests, called moravites, say prayers with a loud voice.

ALCORANISTS, among the mahometans, an appellation given to those who adhere closely to the alcoran, as the ultimate rule of faith: such are the Persians, in contradistinction from the Turks, Arabs, &c. who admit a multitude of traditions besides the alcoran.

ALCOVE, among builders, a recess or part of a chamber, separated by an estrade or partition of columns and other corresponding ornaments; in which is placed a bed of state, and sometimes seats to entertain company.

These alcoves are frequent in Spain, and the bed raised two or three ascents, with a rail at the feet.

ALCYONIUM, in botany, a genus of submarine plants, consisting of a rigid fibrose substance, disposed in various forms, and sometimes coated over with a crust of a similar but more compact matter than the rest.

The *alcyonia*, of which authors enumerate a great many species, have no visible flowers nor seeds.

ALCYONIUM is also used for various other substances, particularly a kind of white coral, or astroites, frequently found fossile in England.

ALDBOROUGH, a sea-port town of Suffolk, which sends two members to parliament. E. lon. 1° 40′, N. lat. 52° 20′.

ALDBOROUGH is also a market-town of Yorkshire, about fifteen miles north-west of the city of York.

ALDEA, a town of Portugal, in the province of Estremadura, about ten miles south of Lisbon.

ALDEBARAN, in astronomy, a star of the first magnitude, called in english the bull's eye, as making the eye of the constellation taurus.

ALDER-*tree*, the english name of a genus of trees, called by botanists alnus. See the article ALNUS.

Alder-wood is much used by turners, for making houshold furniture, ladders, &c. It will keep long in water, and therefore makes good pipes for conveying water.

Berry-bearing-ALDER, the english name of the *frangula* of botanical writers. See the article FRANGULA.

ALDERAIMIN, in astronomy, a star of the third magnitude, on the right shoulder of cepheus. See the article CEPHEUS.

ALDERMAN, in the british policy, a magistrate subordinate to the mayor of a city, or town-corporate.

The number of these magistrates is not limited, but is more or less according to the magnitude of the place. In London they are twenty-six; each having one of the wards of the city committed to his care. Their office is for life; so that when one of them dies, or resigns, a ward-mote is called, who return two persons, one of whom the lord mayor and aldermen choose to supply the vacancy.

By the charter of the city of London, all the aldermen who have been lord mayors, to-

together with the three eldeſt ones not arrived at that dignity, are juſtices of the peace.

ALDERMAN, among our ſaxon anceſtors, was a degree of nobility, anſwering to earl or count at preſent.

Alderman was alſo uſed, in the time of king Edgar, for a judge or juſtice; in which ſenſe Alwin is called *aldermannus totius Angliæ*.

ALDERNEY, or AURIGNI, an iſland on the coaſt of Normandy, ſubject to the crown of Great Britain.

ALE, a fermented liquor, obtained from an infuſion of malt, and differing only from beer by having a leſs proportion of hops. See the articles BEER and BREWING.

Ale is thought to be the ſame kind of liquor with the cerevifia, zythum, and curmi of the antients.

There are ſeveral ſorts of ale, ſome prepared one way, ſome another. Pale ale is brewed of malt ſlightly dried, and is eſteemed more viſcid than brown ale, which is made of malt more highly dried or roaſted.

The annual conſumption of ale, or malt-liquors in the britiſh dominions, is very great; ſome making it amount to the value of four millions ſterling.

Medicated ALES, thoſe wherein medicinal herbs have been infuſed, or put to ferment: ſuch are the cereviſia cephalica, cereviſia epileptica, *&c.*

Gill-ale, or that prepared by infuſing the dried leaves of ground-ivy, is eſteemed abſterſive and vulnerary; and therefore good in diſorders of the breaſt and obſtructions of the viſcera.

ALE-BERRY, the popular name for ale that is boiled with bread and mace, ſweetened, ſtrained, and drank hot.

ALE-CONNOR, an officer in London, who inſpects the meaſures of public houſes. They are four in number, and choſen by the common-hall of the city.

ALE-SILVER, a tax paid yearly to the lord mayor of London, by all who ſell ale within the city.

ALE-MEASURE. See MEASURE.

ALEA, in roman antiquity, denotes in general all manner of games of chance; but in a more reſtricted ſenſe, was uſed for a particular game played with dice and tables, not unlike our back-gammon. See the article BACK-GAMMON.

ALECTORIA, in natural hiſtory, a ſtone ſaid to be formed in the ſtomach, liver, or rather gall-bladder of old cocks; to which old medical authors attribute a great many fabulous virtues.

ALECTOROMANTIA, in grecian antiquity, a ſpecies of divination performed by means of a cock, in the following manner: A circle being deſcribed on the ground, and divided into twenty-four equal portions, in each of theſe ſpaces was written one of the letters of the alphabet, and on each of the letters was laid a grain of wheat; after which a cock being turned looſe in the circle, particular notice was taken of the grains picked up by the cock, becauſe the letters under them being formed into a word, made the anſwer deſired.

ALEGRETTE, a town of Portugal in the province of Alentejo, ſituated on the river Caya. W. lon. 7°. 50′. N. lat. 39°.

ALEMBIC, or LEMBIC, a chemical veſſel, uſually made of copper, being an oblong roundiſh body, terminating in a ſloping tube, or roſtrum, through which the condenſed vapours paſs in diſtillation.

The alembic, properly ſpeaking, is only the upper part of an apparatus uſed for diſtilling, but ſome leſs accurate writers often uſe it to denote the whole.

Alembics are either open, that is, where the head and cucurbit make two ſeparate parts; or blind, where the capital is ſealed hermetically upon the cucurbit.

ALEMBROTH, among alchymiſts, denotes a kind of fixed alkaline ſalt, nearly allied to halonitrum and alum, and partaking of the nature of alkaheſt. See the article ALKAHEST.

Some uſe the term alembroth dæſiccatum, for ſalt of tartar. See the article TARTAR.

ALENGNER, a town of Portugal, in the province of Eſtremadura, about twenty-ſeven miles N. E. of Liſbon.

ALENTEJO, a province of Portugal, lying ſouthward of the Tagus.

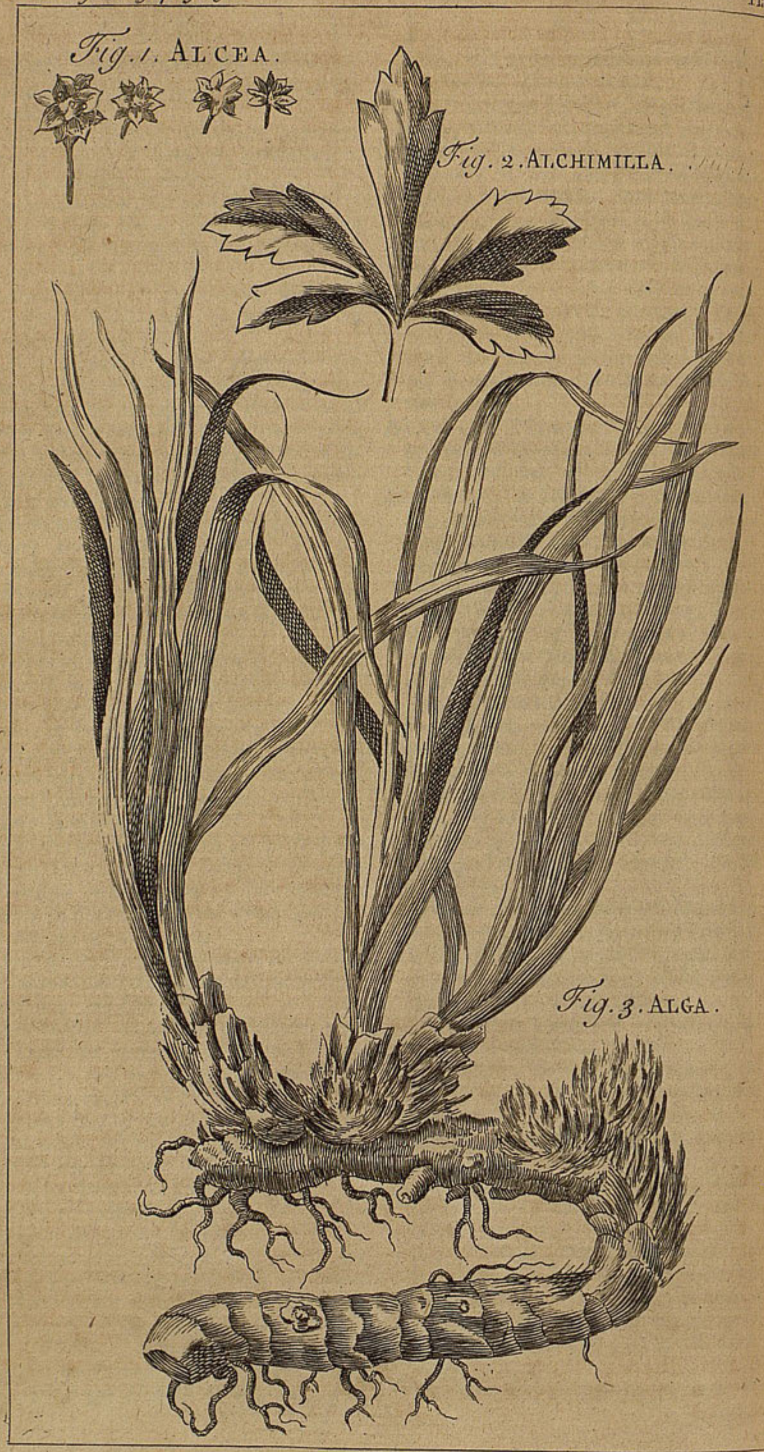
ALENZON, a large city of Normandy, ſituated under the ſame meridian with London, in 48° 32′ N. latitude.

It is the capital of a dutchy of the ſame name.

ALEPPO, a large city of Aſiatic Turky, ſituated in E. longitude 37° 4′. and N. latitude 36° 30′.

It is an inland town, lying almoſt in the middle between the river Euphrates and the Levant-ſea. The chriſtians who are allowed the free exerciſe of their religion, have their houſes and churches in the ſuburbs.

The beglerbeg of Aleppo commands the



T. Jefferys sculp.

whole extent of country between the Levant-sea and the Euphrates.

ALET, or ALETH, a city of France, situated in the upper Languedoc at the foot of the Pyrenees, about thirty-two miles S. W. of Norbonne, E. long. 2°. N. lat. 43°. 10′.

ALEXANDRIA, a port town of Egypt, situated in E. longitude 31° 15′ and N. latitude 30° 40′. about fourteen miles westward of the most westerly branch of the river Nile.

ALEXANDRIA is also the name of a city of Italy, situated on the river Tanaro, about forty miles N. W. of Genoa. E. longitude 8° 52′. N. latitude 44° 45′.

ALEXANDRIAN, or ALEXANDRIN, in poetry, a kind of verse, consisting of twelve, or of twelve and thirteen syllables alternately; so called from a poem on the life of Alexander, written in this kind of verse, by some french poet.

Alexandrins are peculiar to modern poetry, and seem well adapted to epic poems. They are sometimes used by most nations of Europe, but chiefly by the French; whose tragedies are generally composed in Alexandrins.

ALEXIPHARMIC, among physicians, an appellation given to such medicines as resist poison, and correct or expel the causes of malignant disorders.

Alexipharmics produce their effect chiefly by promoting perspiration, whereby the putrid particles are carried off: they are therefore nearly allied to the diaphoretics. See the article DIAPHORETICS.

Alexipharmics agitate and attenuate the humours, on which account they are improper in all cases where these are acrid or too thin; also in all inflammatory disorders, unless administred with great caution. On the contrary, they are very serviceable in those diseases, which proceed from external cold and obstructed perspiration, as catarrhs, rheumatisms, fluxes, coughs, and glandular tumours.

Alexipharmics make a large class of medicines, but the principal ones are these: 1. Of the animal kingdom, hartshorn, bezoars, and the bones and teeth of different animals. 2. Of the vegetable kingdom, the leaves and flowers of all the aromatic plants, especially such as are umbelliferous. 3. Of the mineral kingdom, the different preparations of antimony, the dulcified spirit of vitriol with alcohol.

ALEXITERIAL, among physicians, a term of much the same import with alexipharmic; though sometimes used in a synonymous sense with amulet. See the articles ALEXIPHARMIC and AMULET.

ALFAQUES, among the Moors, the name generally used for their clergy, or those who teach the mahometan religion, in opposition to the morabites, who answer to monks among christians.

ALFELD, a town of Germany in the bishopric of Hildesheim, and circle of lower Saxony, situated about ten miles S. of Hildesheim, in E. longitude 9° 50′, and N. latitude 52°.

ALFET, in our old customs, denotes a cauldron full of boiling water, wherein an accused person, by way of trial or purgation, plunged his arm up to the elbow.

ALGA, in botany, a genus of submarine plants, called in english, grass-wreck, and composed of long slender leaves of a dusky-green colour, very much resembling some kinds of grass. See plate XII. fig. 3.

Authors enumerate several species of alga, the most considerable of which is the alga-marina, so much used in the glass trade. See the article GLASS.

ALGAROT, or ALGAREL, among chemists, an arabic term for an emetic powder, prepared from regulus of antimony dissolved in acids, and separated again by repeated lotions in lukewarm water. By evaporating two third parts of all these lotions, is obtained a very acid liquor, called *spirit of philosophic vitriol.*

ALGARVA, the most southerly province of the kingdom of Portugal. See the article PORTUGAL.

ALGEBRA, a general method of computation by certain signs and symbols; or it is the method of resolving problems by means of equations. See EQUATION.

Some call algebra specious, literal, or universal arithmetic. Others define it to be the art of resolution and equations. Cardan calls it very justly, *ars magna*, the great art.

From the Arabians, the Moors and Saracens brought this art into Spain; from whence it came into England, and that before we knew any thing of Diophantus, a greek writer who published a system of algebra about the year 800 of the christian æra.

To the facility, conciseness, and great extent of the algebraical method of computation, may, in a great measure, the modern improvements in geometry and the other branches of mathematics be ascribed. It has, indeed, been accused of

obſcurity, but without reaſon; for as we have no ideas more clear or diſtinct than thoſe of numbers, it frequently happens that more ſatisfactory knowledge is obtained from computations, than from conſtructions.

The obſcurity complained of, has chiefly ariſen from the uſe of the negative ſign. See the article NEGATIVE.

Algebra is of two kinds, numeral and literal.

Numeral ALGEBRA, that wherein all the given quantities are repreſented by numbers, and only the unknown quantity expreſſed by ſome letter or other ſymbol. This is otherwiſe called vulgar algebra, and was that uſed by the antients.

Literal or ſpecious ALGEBRA, that wherein all the quantities, known as well as unknown, are expreſſed by letters of the alphabet.

This way of notation pleaſes the mind, aſſiſts the imagination, and eaſes the memory: neither is it, like the *numeral*, limited to certain kinds of problems, but ſerves equally for the inveſtigation and demonſtration of all theorems and problems both arithmetical and geometrical. In this art, the given quantities are generally marked with the firſt Letters of the alphabet, *a*, *b*, *c*, *d*, *&c.* and the quantities ſought are diſtinguiſhed by the laſt letters, *z*, *y*, *x*, *&c.* but Harriot, and ſome others, denote the unknown quantities by vowels, and the known by conſonants.

We have a multiplicity of books on this ſubject; but thoſe of Saunderſon, Simpſon, and Maclaurin, are undoubtedly the beſt.

As to the ſeveral rules and operations of algebra, they will be treated of under their reſpective articles. See the articles ADDITION, SUBSTRACTION, *&c.*

ALGEBRAIC, or ALGEBRAICAL, denotes any thing belonging to algebra. Thus we ſay algebraical characters, algebraical curve, *&c.* See the articles CHARACTER, CURVE, *&c.*

ALGENEB, a fixed ſtar of the ſecond magnitude, on the right ſhoulder of the conſtellation Perſeus. See PERSEUS.

ALGHER, or ALGERI, a city on the north-weſt coaſt of the iſland of Sardinia, ſituated in E. longitude 8° 40′, and N. latitude 41° 30′.

ALGIERS, a kingdom of Africa, ſituated between 30 and 37 degrees of N. latitude; and between 1° W. and 9° E. longitude. It is bounded by the Mediterranean on the north, by the kingdom of Tunis on the eaſt, by mount Atlas on the ſouth, and by the river Mulvia, which ſeparates it from the empire of Morocco, on the weſt; extending 600 miles from eaſt to weſt, along the barbary coaſt.

The Turks, who are maſters of this kingdom, are but few in number in compariſon of the Moors, or natives, who have no ſhare in the government. The Arabs who live in tents are diſtinct from either. The dey of Algiers is an abſolute, tho' an elective monarch. He is choſen by the turkiſh ſoldiers only, and is frequently depoſed, or even put to death, by them.

ALGIERS is alſo the name of the capital of the above-mentioned kingdom, ſituated near the mouth of the river Safran, on the Mediterranean-ſea, oppoſite to the iſland of Majorca; its E. longitude being 3° 20′, and its N. latitude 36° 40′.

ALGOL, the name of a fixed ſtar of the third magnitude in the conſtellation Perſeus, otherwiſe called *Meduſa's head.*

ALGONQUIN, one of the two principal languages ſpoken in North America, *viz.* from the river of St. Lawrence to that of Miſſiſſippi; the other, which is called Huron, being ſpoken in Mexico.

ALGORITHM, an arabic term, not unfrequently uſed to denote the practical rules of algebra, and ſometimes for the practice of common arithmetic; in which laſt ſenſe, it coincides with *logiſtica numeralis*, or the art of numbering truly and readily.

Hence we meet with the algorithm of integers, algorithm of fractions, *&c.* See the articles INTEGER, *&c.*

ALHAMA, a ſmall town of Granada in Spain, ſurrounded with hills, and ſituated about twenty-five miles S. W. of Granada. W. lon. 4°, N. lat. 37°.

ALHIDADE, or ALIDADE, a term of arabic origin, ſignifying the index or diopter of a mathematical inſtrument for taking heights and diſtances. See the article DIOPTER.

ALHIRTO, otherwiſe called ROSTRUM GALLINÆ, in aſtronomy, a fixed ſtar of the third magnitude in the conſtellation capricorn.

ALI gives the denomination to a ſect, or diviſion, among the Mahometans, who adhere to the right of ſucceſſion of Ali, the fourth caliph, or ſucceſſor of Mahomet, and the reform of muſſelmaniſm introduced by him.

The ſectaries of Ali, are more particularly called Schiites, and ſtand oppoſed to the

the Sunnites, or sect of Omar, who adhere to the law, as left by Mahomet, Abubeker, and Omar. Ali was cousin of Mahomet, and son-in-law of that prophet, having married his daughter Fatimah. After Mahomet's death, great disputes arose about the succession; many stood for Ali, but Abubeker was preferred, and elected the first caliph. Ali took his turn, after the death of Othman.

The Persians are the chief adherents to the sect of Ali, whom they hold to have been the legitimate successor of Mahomet, and Abubeker an usurper. On the contrary, the Turks are of the sect of Omar, and hold Ali in execration, having raised a furious civil war among the mussulmen.

ALICANT, a large sea-port town of Spain, in the province of Valencia, with a very strong castle. It is situated in W. longit. 30′ and N. latitude 38° 35′.

ALIEN, in law, a person born in a strange country, not within the king's allegiance, in contradistinction from a denizen or natural subject.

An alien is incapable of inheriting lands in England, till naturalized by an act of parliament. No alien is intitled to vote in the choice of members of parliament, has a right to enjoy offices, or can be returned on any jury, unless where an alien is party in a cause; and then the inquest of jurors shall be one half denizens and the other aliens.

ALIEN-DUTY, an impost laid on all goods imported by aliens, over and above the customs paid for such goods imported by british, and on british bottoms. See the article DUTY.

ALIEN-PRIORIES, a kind of inferior monasteries, formerly very numerous in England, and so called from their belonging to foreign abbies.

ALIENABLE, denotes something that may be alienated. See ALIENATION.

All estates are alienable; except those in tail and for life: a bond too, with condition not to alien, is said to be good.

ALIENATION, *alienatio*, in law, denotes the act of making over a man's property in lands, tenements, *&c.* to another person.

To *alien or alienate* in fee, is to sell or convey the fee-simple of lands, *&c.*

Alienation, in mortmain, is making over lands, tenements, *&c.* to a body politic, or to a religious house, for which the king's licence must first be obtained, otherwise the lands, *&c.* aliened will be forfeited. See the article MORTMAIN.

Alienation of crown lands is always supposed to be made under a faculty of perpetual redemption.

A perpetual copy-hold is also a kind of alienation.

ALIENATION, in roman antiquity, was used for a father's discarding a son in his own life-time. See ABDICATION.

ALIENATION-OFFICE is that to which are carried all writs of covenants and entry upon which fines are levied, in order to have fines for alienation set upon them.

ALIFORMIS, in anatomy, the name of a pair of muscles arising from the pterygoide bones, the process of the os cuneiforme, with a beginning partly nervous, and partly fleshy, and ending in the neck of the lower jaw towards the internal seat of the head.

ALIFORMIS PROCESSUS, a name sometimes given to the prominences of the os cuneiforme. See CUNEIFORME.

ALIMENT, in a general sense, whatever contributes to the nourishment of a body, whether animal or vegetable.

Aliment, among physicians, signifies whatever is capable of nourishing the human body. Aliment is either animal or vegetable, of an attenuating or incrassating nature; and with respect to the taste, is sweet, fat, acid, astringent, salsuginous, bitter, and acrid. See DIET, FOOD, DIGESTION, and SANGUIFICATION.

Aliment should always be of a lower nature than the body nourished; for too near an approximation or similarity of substance betwixt the aliment and the body to be nourished, succeeds but badly.

ALIMENT is also sometimes used in a synonymous sense with alimony. See the article ALIMONY.

ALIMENTARY, in a general sense, a term applied to whatever belongs to aliment or food.

ALIMENTARY DUCT, a name by which some call the intestines, on account of the food's passing through them.

Morgan in his mechanical practice of physic, considers the alimentary duct as a great gland; the lacteals being its secretory vessels, and the intestines from the pylorus to the anus its vas expurgatorium.

Some make the alimentary duct to be the true characteristic of an animal. See the article ANIMAL.

Alimentary duct is sometimes also used for the thoracic duct. See THORACIC.

ALIMENTARY CHILDREN, *alimentarii pueri*,

pueri, in roman antiquity, an appellation given to thofe educated in houfes, not unlike our hofpitals, erected for that purpofe. There were likewife alimentary girls, *alimentariæ puellæ*, who owed their maintenance to the bounty of feveral empreffes, as the boys did theirs to that of the emperors.

ALIMENTARY LAW, among the Romans, that whereby children were obliged to maintain their aged parents.

ALIMONY, *alimonia*, in law, denotes the maintenance fued for by a wife, in cafe of a feparation from her hufband, wherein fhe is neither chargeable with elopement nor adultery.

Antiently, this was recoverable only in the fpiritual courts, but at prefent may be obtained in chancery.

ALIPILARIUS, or ALIPILUS, in roman antiquity, a fervant belonging to the baths, whofe bufinefs it was by means of waxen plafters and an inftrument called volfella, to take off the hairs from the arm-pits, and even arms, legs, *&c.* this being deemed a point of cleanlinefs.

ALIQUANT *parts*, in arithmetic, thofe which will not divide or meafure the whole number exactly. Thus 7 is an aliquant part of 16, for twice 7 wants 2 of 16, and three times 7 exceeds 16 by 5.

ALIQUOT *part*, is fuch part of a number as will divide and meafure it exactly without any remainder. — For inftance, 2 is an aliquot part of 4, 3 of 9, and 4 of 16.

To find all the aliquot parts of a number, divide it by its leaft divifor, and the quotient by its leaft divifor, until you get a quotient not farther divifible, and you will have all the prime divifors or aliquot parts of that number. Thus 60 divided by 2, gives the quotient 30, which divided by 2 gives 15, and 15 divided by 3, gives the indivifible quotient 5. Hence the prime aliquot parts are 1, 2, 2, 3, 5; and by multiplying any two or three of thefe together, you will find the compound aliquot parts, *viz.* 4, 6, 10, 12, 15, 20, 30.

Aliquot parts muft not be confounded with commenfurable ones; for though the former be all commenfurable, yet thefe are not always aliquot parts: thus 4 is commenfurable with 6, but is not an aliquot part of it. See the article COMMENSURABLE.

ALISMA, GREAT WATER PLANTAIN, in botany, a genus of the hexandria polygynia clafs of plants, the calyx of which is a perianthium compofed of three oval, hollow, permanent leaves; the corolla confifts of three, large, roundifh, plane, and very patent petals; the fruit confifts of capfules, arranged together in a roundifh or trigonal form: the feeds are fingle and fmall.

ALITES, in roman antiquity, a defignation given to fuch birds as afforded matter for auguries by their flight; in which fenfe, they are contradiftinguifhed from thofe called ofcines. See OSCINES.

ALKA, in ornithology, a bird of the anferes, or goofe-kind, about the fize of a duck, and all over black except the breaft and belly which are white: it is called in englifh the awk or razor-bill. See plate XIII. fig. 1.

ALKAHEST, or ALCAHEST, among chemifts, denotes an univerfal menftruum capable of refolving all bodies into their *ens primum*, or firft matter; and that without fuffering any change, or diminution of force by fo doing.

Van Helmont affures us, in the moft pofitive manner, that he himfelf was mafter of fuch a menftruum; concerning which many have been the opinions and hypothefes of chemifts. Some have had fanguine expectations of finding an alkaheft in fea-falt, and mercury; others from nitre; in fhort, there are few bodies, but fome one or other has fixed on as the fubject of his refearches after this fo much famed menftruum. But the moft general opinion is, that it is to be obtained from human urine. We are told, that the matter of this diffolvent is both bafe and precious; that it cofts nothing; that all men have it in their power; that Adam carried it with him when he went out of Paradife; that it is concealed in the microcofm, and very powerful in the macrocofm; in fhort, that it is human urine.

Paracelfus ufes no fynonymous terms for the alkaheft; but Helmont calls it *ignis aqua*, *ignis gehennæ*, and *fummum et feliciffimum omnium falium*. He adds, that it was no natural production, but folely to be obtained by art.

Alkaheft, according to Starkey, is compofed of three principles: a volatile urinous falt; an intermediate fpirit, or effential oil of urine; and an acid nowife corrofive, which is nothing but the vinous fpirit of urine. When the oily fpirit has coagulated the falt, both are to be diffolved by the vinous fpirit, which will likewife unite with them by fermentation.

fion. This operation is to be repeated, till the whole becomes an entirely fiery and fpirituous effence, or what is the fame thing, a falt without phlegm.

Various other proceffes are delivered, by different authors, for obtaining an alkaheft; which, it is faid, will tranfmute ftones, gems, metals, and in general, all bodies whatever, whether belonging to the animal, vegetable, or mineral kingdom, into an actual falt, equal in quantity to their whole bulk.

It is an obfervation of Boerhaave, that nothing in all nature is more furprifing than the change of bodies attributed to the action of this menftruum; inafmuch as they are changed into a quite different matter, without lofing any of their virtues or weight in the operation. By means of alkaheft, the moft folid bodies, not excepting gold and gems, are faid to be changed into a faline volatile fubftance, which contains all their virtues, and is capable of mixing with animal fluids. In this ftate they become potable, in the true fenfe of the word; for what the chemifts mean by potable gold, is only gold reduced to a faline and foluble fubftance, capable of circulating thro' all the veffels of the human body.

Another equally furprifing property of alkaheft, is its being able to diffolve all thefe bodies, without mixing with, or fuffering any change from them; fo that it muft produce its effects, by only acting externally upon the fubject.

After all, many great chemifts have doubted whether it be poffible to obtain fuch an univerfal menftruum, as the alkaheft is reprefented to be. Thofe who defire a more particular account of the alkaheft, may confult Boerhaave's elements of chemiftry; alfo Starkey, Pelletier, Juncker, Baldwin, *&c.* who have all treated of this fubject.

ALKALI, among chemifts and phyficians, an appellation given to all fubftances which excite a fermentation when mixed with acids.

Originally the term alkali fignified only the falt extracted from the afhes of kali or glafs-wort; afterwards, it was ufed for the falts of all plants, extracted in the fame manner; and as thefe were obferved to ferment with acids, the fignification of the term was ftill farther extended, fo as to comprehend whatever fubftances had this effect.

Alkalies, or alkaline fubftances, are therefore of various and widely different kinds. Some are earthy, as quick-lime, marble, and fealed earths; others metalline, as gold, filver, tin, *&c.* others of animal origin, as fhells, bezoars, the calculus humanus, *&c.* and laftly, all the ftony fubmarine plants, as coral. Alkalies are either fixed, as falt of tartar, and oil of tartar *per deliquium*; or volatile, as fpirit of hartfhorn. The fixed may be diftinguifhed from the volatile, as the former will give a red orange colour to a folution of quick-filver by the fpirit of nitre; whereas the latter gives to this folution a white milky colour. But every alkaline fubftance, whether fixed or volatile, being mixed with the juices of turnfol, rofes, or violets, prefently changes their natural colours to a green. It muft be obferved, that no vegetables can afford an alkaline falt without the action of fire; on the contrary, if fuffered to dry or rot fpontaneoufly, they vanifh or change their form, without leaving the leaft fixed alkali behind. Hence we may conclude, that fixed alkaline falts have their nature imparted to them by fire, and not by any natural vegetable operation.

There is, however, a natural fixed alkali of the mineral kind, namely natrum, which is more common than is generally imagined, and is often found in mineral waters. Of the feveral kinds of fixed alkalies, the moft common is that called by the name of pot-afh.

The grofs lee which wines depofite after fermentation, being preffed dry, and burnt to afhes, afford likewife a fixed alkali, which may alfo be produced from fixed nitre, from tartar and nitre mixed, and regulus of antimony.

It is evident, from repeated experiments, that all fixed alkalies are endowed with the power of attracting water, air, pure alcohol, oil and acids, though of thefe laft, they attract fome more ftrongly than others.

Alkalies are ufed in medicine to refolve and fufe tenacious coagulations of the juices, to open obftructions, attenuate the fluids, gently ftimulate the folids, promote perfpiration, fweat, urine, and a difcharge of all acid humours, by means of a neutral purgative falt, which they form with the acid in the inteftines.

Whether any volatile alkali exifts in nature, without the affiftance of putrefaction, or diftillation, is not eafy to determine; but it is certain, that both animal and vegetable fubftances yield thefe falts

in great plenty. The moſt remarkable are animal ſalts, which may be procured by diſtillation from every animal ſubſtance, as hartſhorn, blood, ſilk, cobwebs, *&c.* The hypotheſis of acid and alkali was formerly in great eſteem. The patrons of this hypotheſis aſſerted that alkalies and acids were the univerſal principles of all bodies; and from hence accounted for every phænomenon of nature. But experience has demonſtrated their ſyſtem to be falſe and inſignificant. See ACID.

ALKALINE, in a general ſenſe, a term applied to all ſuch things as have the properties of an alkali. See ALKALI.

ALKALIZATION, among chemiſts and phyſicians, denotes the impregnating a liquor with alkaline ſalts.

ALKALY, the ſame with alkali. See the article ALKALI.

ALKEKENGI, WINTER-CHERRY, in botany, the name of a diſtinct genus of plants, the flower of which conſiſts of one leaf, of a rotated form, and divided into ſeveral ſegments. This is ſucceeded by a ſoft fruit, reſembling a cherry in ſhape, and containing a number of flat ſeeds. See plate XIII. fig. 2.

This genus is called by Linnæus, phyſalis, and makes one of the pentandria monogynia claſs of the ſame author.

ALKERMES, in pharmacy, a compound cordial medicine, of the form and conſiſtence of a confection. It is made of various ingredients, as roſe-water, ſugar, cinnamon, aloes-wood, *&c.* but the principal one is kermes. See KERMES.

ALKORAN. See the article ALCORAN.

ALL-HALLOWS, or ALL-SAINTS, a feſtival obſerved by moſt denominations of chriſtians, in commemoration of all the ſaints in general. It is kept on the firſt of November.

The number of ſaints being ſo exceſſively multiplied, it was found too burdenſome, to dedicate a feaſt day to each. In reality there were not days enough, ſcarce hours enough, in the year for this purpoſe. Hence an expedient was had recourſe to, by commemorating ſuch in the lump as had not their own days. Boniface IV. in the ninth century, introduced the feaſt of all-ſaints in Italy, which was ſoon after adopted into the other churches.

ALL SAINTS BAY, or *Baiha de todos ſanctos*, a ſpacious harbour near St. Salvador in Brazil, in ſouth America, on the atlantic ocean, W. longitude 40°. S. latitude 12°.

ALL-SOULS, a feſtival kept in commemoration of all the faithful deceaſed, on the ſecond of November.

The feaſt of all-ſouls was firſt introduced in the eleventh century, by Odilon abbot of Cluny, who enjoined it on his own order; but it was not long before it became adopted by the neighbouring churches.

ALLANTOIS, or ALLANTOIDES, in comparative anatomy, a veſicle inveſting the fœtus of ſeveral animals, as cows, ſheep, goats, *&c.* and filled with an urinous liquor conveyed thither from the urachus. The word allantoides is derived from ἀλλᾶς, a gut, and εἶδος, ſhape.

As to the exiſtence of the allantois in the human ſpecies, anatomiſts are by no means agreed; ſome contending for it, and others denying it.

Several anatomiſts, who diſpute the exiſtence of the human allantois, allow of an intermediate membrane in the human ſpecies, between the chorion and amnios, but deny it the appellation of an allantois, as holding it to differ from the allantoides of brutes, in ſtructure, as well as office. Harvey will not allow an allantois even in brutes, but fancies the allantois and the chorion to be the ſame membrane, only with two names; the firſt derived from its ſhape, the ſecond from its office. According to his opinion, the fœtus does not void any urine, but the whole is contained in the bladder, till the time of birth. Hale reſolves all theſe difficulties. Heiſter lay under the ſame incredulity with Harvey; but has lately publiſhed his recantation in form. Galen, and moſt of the antients, it is certain, not only hold the allantois and chorion for diſtinct membranes, but allow an allantois to the human fœtus; though this, it is to be obſerved, they did not ſo much from their experience of it, as from a ſuppoſed conformity between the viſcera, *&c.* of men, and of brutes. Hence the accounts they have left as to the figure, ſituation, *&c.* of the allantois, agree only to their appearance in brutes. Galen deſcribes the allantois as part of the navel-ſtring, reſembling a pudding, and reaching from one corner of the uterus to the other.

ALLAY, the ſame with alloy. See the article ALLOY.

ALLEGATION, *allegatio*, in a law ſenſe, ſignifies the producing inſtruments, or deeds, to authorize or juſtify ſomething.

ALLEGA-

ALLEGATION, in matters of literature, is the quoting an author in regard to the ſubject in hand.

ALLEGIANCE, in law, denotes the obedience which every ſubject owes to his lawful ſovereign.

Oath of ALLEGIANCE, in the britiſh policy, that taken in acknowledgment of the king, as a temporal prince; as the oath of ſupremacy acknowledges him for the ſupreme head of the church.

The oath of allegiance, taken by the people to the king, is only the counterpart to the coronation oath, taken by the king to the people, and as ſuch, partakes of the nature of a covenant; that is, is conditional, and ceaſes on a violation of the contract by the prince; at leaſt this is the doctrine of ſome of the chief advocates for the revolution. The anti-revolutioners, on the contrary, hold the oath of allegiance to be abſolute and unconditional.

ALLEGORICAL, a term applied to whatever belongs to, or partakes of the nature of an allegory. See ALLEGORY.

ALLEGORY, ἀλληγορία, in matters of literature, a mode or ſpecies of writing, wherein ſomething elſe is ſignified than the words, in their literal meaning, expreſs. An allegory may be conſidered as a ſeries or chain of metaphors, continued through a whole diſcourſe. For example, when the prophets repreſent the Jews under the allegory of a vine planted, cultivated and watered by the hand of God, which inſtead of producing good fruit, brings forth verjuice and ſour grapes.

Allegories have entered into moſt religions; the jewiſh abounds with them, and it is well known that ſome philoſophers of the gentile world, undertaking to give a rational account of the many ſhocking abſurdities which the poets had introduced into their religion, found it neceſſary to maintain that theſe fictions contained myſteries, and ſignified ſomething very different from what they ſeemed to expreſs. Hence came the word allegory, or a diſcourſe that in its natural ſenſe, ἀλλο ἀγορευει, ſignifies ſome other thing than what ſeems intended to be meant.

Allegory includes parable, apologue, μῦθος, or fable, and parœmia, or proverbs; at leaſt, under allegories are comprehended ſuch proverbs as are applicable to ſubjects of different kinds.

Scaliger conſiders allegory as one part, or ſide of a compariſon. It differs from irony, in that allegory imports a ſimilitude between the thing ſpoken and intended; irony a contrariety between them.

Some have allegorized, or reduced to allegory, whole ſciences, as heathen theology, mythology, antient hiſtory, poetry, coſmogony, theogony, and moſt of the wiſdom of the antients, as well as of the moderns. By the help of allegory, we find natural philoſophy in Moſes, chemiſtry in the antient poets, ſublime and ſpiritual things in low, vulgar, or groſs ones, wonderful diſcoveries in rabbinical fables, admirable ſenſe and harmony, inſtead of contradiction, blunder, and folly.

Allegories have been in uſe in all ages and countries; we find them particularly among the orientals, and the Egyptians, who are ſuppoſed to have been the fathers of them. They were adopted by the antient Jews, but more by the Rabbins, and cabbaliſts of latter days. The Chriſtians borrowed the uſage very early; the primitive fathers abound with them. The Mahometans alſo give into allegory, where the literal ſenſe of the alcoran is liable to objections, particularly in the carnal account of paradiſe. The Gnoſtics, Valentinians, and Baſilidians, appear to have been great dealers in allegory; at leaſt if the conjectures of moderns be not here miſtaken, who reſolve the doctrine of the Æons, of Abraxa's, &c. into the allegorical ſyſtem.

The great ſource of allegory, or allegorical interpretations, is ſome difficulty, or abſurdity, in the literal and obvious ſenſe.—For a refuge, either to ſave the reputation of the writer, or conceal the ignorance of the commentator, recourſe is had to the expedient of allegory. The miſchief is, as there are no certain laws, or rules, whereby to conduct, moderate, and reſtrain the ſpirit of allegorizing, we find ſtrange confuſion, and endleſs diſcord the fruit of it.

Allegories are diſtinguiſhed into divers kinds: as, verbal, real, ſimple, alluſive, phyſical, moral, political, theological, &c.

ALLEGRO, in muſic, an italian word denoting that the part is to be played in a ſprightly, briſk, lively, and gay manner. Allegros move ſwifter in triple than in common time. See the article TIME.

Piu-allegro, ſignifies that the part it is joined to, ſhould be ſung or played quicker; as

Poco piu allegro, intimates that the part to which it refers ought to be played or ſung

sung only a little more briskly than allegro alone requires.

ALLELUJAH, among ecclesiastical writers. See the article HALLELUJAH.

ALLEMAND, a sort of grave solemn music, with good measure and a slow movement.

ALLEMANNIC, in a general sense, denotes any thing belonging to the antient Germans. Thus we meet with allemannic history, allemannic language, allemannic law, *&c.*

The allemannic law, as well as language, prevailed in the more southern parts of Germany, as the saxon law did in the northern.

ALLENDORF, a little city in the landgravate of Hesse Cassel, in Germany, situated upon the river Weser, E. longit. 10°. N. latitude 51° 30′.

ALLER, a river which runs through the duchy of Lunenburg, and falls into the Weser, a little below Verden.

ALLERION, or ALERION, in heraldry, a sort of eagle without beak or feet, having nothing perfect but the wings.

They differ from martlets in that their wings are expanded, whereas those of the martlet are close; and denote imperialists vanquished and disarmed, for which reason they are more common in french than in german coats of arms.

ALEU, or ALLODE. See the articles ALLODIAL and ALLODIUM.

ALLEVIARE, in old records, signifies to levy or raise an accustomed fine or composition.

ALLEVIATION is the act of making a thing lighter or more easy to be born.

ALLEY, in gardening, a strait parallel walk, bounded on both sides with trees, shrubs, *&c.* and usually covered with gravel or turf.

An alley should be broad enough for two persons to walk a-breast, and therefore should not be less than five feet in width. By this it is distinguished from a path. Some say, that an alley ought never to exceed fifteen feet in breadth.

Covered alley, that over which the branches of the trees meeting, form a shade.

Alley in ziczac, that which having too great a descent, is apt to be damaged by floods.

Alley of compartment, that which divides the squares of a parterre. See the article PARTERRE.

ALLEY, among builders, denotes a narrow passage leading from one place to another.

ALLEY, in perspective, that which, in order to have a greater appearance of length, is made wider at the entrance than at the termination.

Counter alleys are little alleys by the sides of the great ones.

ALLIANCE, in the civil and canon law, the relation contracted between two persons or two families by marriage.

An alliance is thus contracted between the husband and his wife's relations, between the wife and her husband's relations, but not between the relations of the husband and wife.

ALLIANCE is also used for a treaty entered into by sovereign princes and states, for their mutual safety and defence.

In this sense, alliances may be distinguished into such as are offensive, whereby the contracting parties oblige themselves jointly to attack some other power; and into defensive ones, whereby they bind themselves to stand by and defend each other, in case they are attacked by others. Under this head too may be ranked treaties of subsidy.

ALLIANCE, in a figurative sense, is applied to any kind of union or connection: thus we say, there is an alliance between the church and state.

ALLIGATION, in arithmetic, is the rule of mixture, which teaches to compound several species of ingredients or commodities together, according to any intent or design proposed; and is either medial or alternate.

ALLIGATION *medial* shews the rate or price of any mixtures, when the several quantities of the mixture, and their rates, are known.

Rule: multiply each quantity given, by the price; and then, by direct proportion, say, as the sum of the quantities given, to the sum of the products; so is any part of the mixture, to the value of that part.

Example: a goldsmith melts 3 oz. of gold, at 4 l. 6 s. 8 d. per ounce, with 12 oz. at 4 l. per ounce, and 8 oz. at 4 l. 5 s. per ounce: when they are all melted together, one ounce will be found to be worth 4 l. 2 s. $\frac{7}{23}$d. Thus,

oz.		l. s. d.		l.
3	at	4 6 8	multiplied together produce	13
12		4 0 0		48
8		4 5 0		34
23 Sum			Sum	95

oz. l. oz. l. s. d.
Then as 23 : 95 :: 1 : 4 2 7 $\frac{7}{23}$ Answ.

ALLIGATION *alternate* teaches to mix goods,

goods, of different prices, in ſuch proportion, that the mixture may be ſold for any price propoſed.

Rule: ſet down the names of the things to be mixed, together with their prices; then, finding the difference between each of theſe, and the propoſed price of the mixture, place theſe differences in an alternate order, and they will ſhew the proportion of the ingredients. Thus,

To find in what proportion rum at 10 s. the gallon, ought to be mixed with brandy at 4 s. the gallon, that the mixture may be ſold for 8 s. the gallon: firſt ſet down the rum and brandy, together with their prices, as in the margin; then finding the difference between 8, the propoſed price, and 4, the price of the brandy, place this difference, *viz.* 4. alternately, that is oppoſite to the rum: and, after the ſame manner, place the difference between 10 and 8, *viz.* 2, oppoſite to brandy: then will 4 and 2 ſhew the proportion of the rum to the brandy, that is, there muſt be four gallons of rum for two gallons of brandy. Thoſe who are curious to have a fuller explanation of this rule, may conſult Ward, Wallis, Taquet, Malcom, and other books on arithmetic.

Rum 10—8 4
Brandy 4—8 2

ALLIGATOR, in zoology, a name given to the ſmaller kind of crocodiles in the Weſt-Indies. See CROCODILE.

An alligator ſmells ſo ſtrong of muſk as to affect the water and air at a conſiderable diſtance.

ALLIOTH, a ſtar in the tail of the greater bear, much uſed for finding the latitude at ſea.

ALLIUM, GARLICK, in botany, the name of a genus of plants, the characters and uſes of which ſee under GARLICK.

ALLOCATION, *allocatio*, the admitting or allowing of an article in an account, particularly in the exchequer. Hence

ALLOCATIONE FACIENDA is a writ directed to the lord treaſurer, or barons of the exchequer, commanding them to allow an accountant ſuch ſums as he has lawfully expended in the execution of his office.

ALLOCATO COMITATU, a new writ of exigent allowed, before any other county-court held, on a former not being complied with. See the article EXIGENT.

ALLODIAL, an epithet given to an inheritance held without any acknowledgment to a lord or ſuperior, in oppoſition to feudal. See the article FEUDAL.

Allodial lands are free lands, for which neither fees, rents, nor ſervices are due. See the article ALLODIUM.

ALLODIARIUS, or ALODIARIUS, in our old writers, denotes the proprietor of an allodium. See the next article.

ALLODIUM, or ALLEUD, denotes lands which are the abſolute property of their owner, without being obliged to pay any ſervice or acknowledgment whatever to a ſuperior lord; in which ſenſe they ſtand oppoſed to feudal lands, which pay a fee to ſome ſuperior.

Allodium nobile, that which had alſo civil and criminal juriſdiction annexed to it; in oppoſition to *allodium villanum*, which had no ſuch juriſdiction.

ALLOM, the ſame with alum. See the article ALUM.

ALLONGE, in fencing, denotes a thruſt or paſs at the adverſary. See PASS.

ALLOPHYLUS, in botany, a genus of the octandria monogynia claſs of plants, the calyx of which is a perianthium compoſed of four leaves of an orbicular figure, and two oppoſite ones ſmaller than the others; the corolla conſiſts of four petals leſs than the cup, of an orbicular figure, and equal one to another, with large ungues of the ſame length with the ſmaller leaves of the cup. The characters of the fruit and ſeed are not aſcertained.

ALLOTTING, or ALLOTMENT *of goods*, in commerce, is the dividing a ſhip's cargo into ſeveral parts, which are to be purchaſed by ſeveral perſons, whoſe names being written upon as many ſlips of paper, are applied by an indifferent perſon to the ſeveral lots; by which means the goods are divided without partiality, each man having the parcel upon which his name is fixed.

ALLOWANCES, at the cuſtom-houſe, to goods rated by weight, are two, *viz.* draught and tare. See the articles DRAUGHT and TARE.

ALLOWED, a word written in the margin of an account of expences over againſt ſuch articles as are admitted to be reaſonable.

ALLOY, or ALLAY, a proportion of a baſer metal mixed with a finer one. Thus all gold coin has an alloy of ſilver and copper, as ſilver coin has of copper alone; the proportion in the former caſe, for ſtandard gold, being two carrats of alloy in a pound troy of gold; and in the latter eighteen penny-weight of alloy for a pound troy of ſilver.

According as gold or filver has more or lefs alloy than that mentioned above, it is faid to be coarfer or finer than the ftandard. However, it ought to be remarked, that the coin of different nations varies greatly in this refpect; fome ufing a larger, and others a lefs proportion of alloy, the original intention of which was to give the coin a due degree of hardnefs. There is a method of examining, by means of touch-needles, what proportion of alloy is contained in any coin. See the article TOUCH-NEEDLE.

ALLOM, the fame with alum. See ALUM.

ALLUSION, in rhetoric, a figure by which fomething is applied to, or underftood of another, on account of fome fimilitude between them.

An allufion to words is trifling and low, making what we commonly call a pun. See the article PUN.

However, allufions to fome apophthegm, remarkable event, or generally received cuftom, are not only extremely pleafing, but approved by the beft writers, antient as well as modern.

ALLUVION, *alluvio*, among civilians, denotes the gradual increafe of land along the fea-fhore, or on the banks of rivers. This, when flow and imperceptible, is deemed a lawful means of acquifition; but when a confiderable portion of land is torn away at once, by the violence of the current, and joined to a neighbouring eftate, it may be claimed again by the former owner.

ALLY, *focius*, in matters of polity, a fovereign prince or ftate, that has entered into alliance with others. See the article ALLIANCE.

ALMACANTARS, the fame with almucantars. See ALMUCANTARS.

ALMACARRON, a port-town of Spain, in the province of Murcia, at the mouth of the river Guadalentin: weft longitude 1° 15′, north latitude 37° 40′.

ALMADE, a town of Spain, in the province of la Mancha, in the kingdom of Caftile, fituated upon the top of a mountain, where are the moft antient, as well as the richeft filver mines in Europe.

ALMADIE, a kind of canoe, or fmall veffel, about four fathom long, ufually made of bark, and ufed by the negroes of Africa.

Almadie is alfo the name of a kind of long boats, fitted out at Calicut, which are eighty feet in length, and fix or feven in breadth. They are exceeding fwift, and are otherwife called *cathuri*.

ALMAGEST, in matters of literature, is particularly ufed for a collection or book compofed by Ptolemy, containing various problems of the antients both in geometry and aftronomy.

Almageft is alfo the title of other collections of this kind. Thus, Riccioli has publifhed a body of aftronomy, which he calls the *New almageft*; and Plukenet, a book which he calls *Almageftum botanicum*.

ALMAGRA, in natural hiftory, the name of a fine deep-red ochre, with a faint admixture of purple, ufed both in painting and medicine, being an excellent aftringent. It is the fame with what the antients called *fil atticum*.

ALMANAC, in matters of literature, a table containing the calendar of days and months, the rifing and fetting of the fun, the age of the moon, *&c.*

Authors are neither agreed about the inventor of almanacs, nor the etymology of the word; fome deriving it from the arabic particle *al*, and *manah*, to count; whilft others think it comes from *almanah*, *i. e.* handfels, or new year's gifts, becaufe the aftrologers of Arabia ufed, at the beginning of the year, to make prefents of their ephemerides for the year enfuing.

As to the antiquity of almanacs, Ducange informs us, that the egyptian aftrologers, long before the Arabians, ufed the term *almenach*, and *almenachica defcriptio*, for their monthly predictions. Be this as it will, Regiomontanus is allowed to have been the firft who reduced almanacs to their prefent form.

Conftruction of ALMANACS. The firft thing to be done, is to compute the fun's and moon's place for each day in the year, or it may be taken from fome ephemerides and entered in the almanac; next, find the dominical letter, and, by means thereof, diftribute the calendar into weeks: then, having computed the time of eafter, by it fix the other moveable feafts; adding the immoveable ones, with the names of the martyrs, the rifing and fetting of each luminary, the length of day and night, the afpects of the planets, the phafes of the moon, and the fun's entrance into the cardinal points of the ecliptic, *i. e.* the two æquinoxes and folftices.

Thefe are the principal contents of almanacs; befides which there are others of a political nature, and confequently different in different countries, as the birth-

days and coronation of princes, tables of intereft, &c.

On the whole, there appears to be no myftery, or even difficulty, in almanac-making, provided tables of the heavenly motions be not wanting. For the duties upon almanacs, fee STAMP-DUTIES.

ALMANZA, a little town in the province of New Caftile in Spain, remarkable for the defeat of the confederate army by the French, is 1707: weft longitude 1° 15′, north latitude 39°.

ALMEDA, a town in the province of Eftremadura, in Portugal: weft longitude 9° 40′, north latitude 38° 40′.

ALMEDIA, a frontier town in the province of Tralos Montes, in Portugal: weft longit. 7°, north latitude 40° 40′.

ALMEHRAB, in the mahometan cuftoms, a nich in their mofques, pointing towards the kebla, or temple of Mecca, to which they are obliged to bow in praying. See the article KEBLA.

ALMIGGIM-WOOD, in the fcripture-language, is thought to be that of the indian pine-tree; which being exceeding light, and of a beautiful white colour, was greatly efteemed for making mufical inftruments.

ALMOND, the fruit of the almond-tree. See the next article.

ALMOND-TREE, *amygdalus*, in botany, the englifh name of a diftinct genus of trees, with rofaceous flowers, and an oblong ftony fruit, in which is included a kernel of the fame fhape. See plate XVI. fig. 4.

This genus belongs to the *icofandria-monogynia* clafs of Linnæus, who makes it comprehend both the *amygdalus* and *perfica*, or peach-tree, of other botanifts.

Of the feveral fpecies of almonds, the fweet and bitter kinds are moft ufed in medicine; the former being reputed cooling, healing, emollient, and nutritive; and the latter, aperient, deterfive, and diuretic.

We have feveral preparations of almonds, as blanched almonds, or thofe which have been fteeped in warm water, till they dropped out of their fhells; butter of almonds, made by adding blanched almonds to a preparation of cream and the whites of eggs boiled together; almond-milk, made of fweet blanched almonds boiled in fair water, and frequently ufed as a cooler; and fo in other inftances.

ALMONDS, *amygdalæ*, in anatomy, a name fometimes given to the two glands, more ufually called tonfils. See TONSILS.

ALMOND-FURNACE, among refiners, that in which the flags of litharge, left in refining filver, are reduced to lead again, by the help of charcoal.

ALMONER, an officer appointed to diftribute alms to the poor.

The lord almoner, or lord high almoner of England, is an ecclefiaftical officer, ufually a bifhop, who has the forfeiture of all deodands, and the goods of felos de fe, which he is to diftribute among the poor.

By virtue of an antient cuftom, the lord almoner may give the firft difh from the king's table, to whatever poor perfon he pleafes; or, in lieu of it, an alms in money.

The parifhioners, alfo, of the parifh adjacent to the king's place of refidence, nominate twenty-four poor men, to whom the lord almoner diftributes four pence a day in money, bread, and fmall beer.

To the great almoner of France belongs the fuperintendency of hofpitals, &c. and from his hands the king receives the facrament.

ALMONER is fometimes alfo ufed for a deacon of a church, a chaplain, or even a legatee.

ALMONRY, AUMBRY, or AMBRY. See the article AMBRY.

ALMS, *eleemofyna*, a general term for what is given out of charity to the poor.

In the early ages of chriftianity, the alms of the charitable were divided into four parts, one of which was allotted to the bifhop, another to the priefts, and a third to the deacons and fub-deacons, which made their whole fubfiftence; the fourth part was employed in relieving the poor, and in repairing the churches.

The manner of collecting alms in the affemblies of the primitive chriftians, is explained by St. Paul, in the ninth chapter of his fecond epiftle to the Corinthians.

Alms alfo denotes lands or other effects left to churches, or religious houfes, on condition of praying for the foul of the donor. Hence, free-alms, was that which is liable to no rent or fervice. Reafonable alms was a certain portion of the eftates of inteftate perfons, allotted to the poor.

ALMS-BOX, or ALMS-CHEST, in churches, and hofpitals, &c. a ftrong box, with a hole or flit in the upper part, to receive the alms of the charitably difpofed. Thofe of churches have three keys, one kept by the parfon, and the other two by the church-wardens.

ALMS-FEOH, or ALMES-FEOH, a term antiently ufed for Peter's pence. See the article PETER'S PENCE.

ALMS-HOUSE, a kind of petty hofpital for the maintenance of a certain number of poor, aged, or difabled perfons. Of thefe there are a great number about London and Weftminfter; fome endowed by public companies, and others by private perfons.

ALMUCANTARS, in aftronomy, an arabic word denoting circles of the fphere paffing through the center of the fun, or a ftar, parallel to the horizon, being the fame as parallels of altitude. See the article PARALLELS *of altitude.*

Almucantars are the fame with refpect to the azimuths and horizon, that the parallels of latitude are with regard to the meridians and equator. They ferve to fhew the height of the fun and ftars, and are defcribed on many quadrants, &c.

ALMUCANTAR's *ftaff*, a mathematical inftrument, ufually made of box, or pear-tree, having an arch containing fifteen degrees.—It was formerly ufed to find the altitude of the fun about the time of his rifing, in order to find his amplitude, and the variation of the compafs.

ALMUCIUM, in middle-age writers, denotes a kind of cover for the head, worn chiefly by monks and ecclefiaftics: it was of a fquare form, and feems to have given rife to the bonnets of the fame fhape, ftill retained in univerfities and cathedrals.

ALMUG-TREE, mentioned in the fcriptures, which the vulgate tranflates *ligna thyina*, and the feptuagint *wrought-wood*, is underftood by the beft commentators to be a gummy oily fort of a tree, and particularly that which produces gum arabic.

ALMUNECAR, a port-town of Granada, in Spain, fituated upon the Mediterranean fea: weft longitude 3° 45′, north lat. 36° 40′.

ALNAGE, or AULNAGE, in the englifh polity, the meafuring of woollen manufactures, with an ell, and the other functions of the alnager. See the next article.

Alnage was at firft intended as a proof of the goodnefs of the commodity, and therefore a feal was invented as a fignal, that the commodity was made according to the ftatute. But now, that thefe feals may be bought and affixed to whatever commodity the buyer pleafes, our rivals have acquired an opportunity of fupplanting our trade with foreign nations, to the great prejudice of our woollen manufactures.

ALNAGER, in the englifh polity, a public fworn officer, whofe bufinefs is to examine into the affize of all woollen cloth made throughout the kingdom, and to fix feals upon them. Another branch of his office is to collect an alnage-duty to the king. See the laft article.

There are now three officers relating to the alnage, namely, a fearcher, meafurer, and alnager; all which were formerly comprized in the alnager, until by his own neglect it was thought proper to feparate thefe offices.

ALNUS, the ALDER-TREE, in botany, a fpecies of betula, with amentaceous flowers, and fruit of a fquamofe ftructure, containing numerous compreffed feeds. See plate XIII. fig. 3. and the article BETULA.

ALOA, αλωα, in grecian antiquity, a feftival kept in honour of Ceres, by the hufbandmen, and fuppofed to refemble our harveft-home.

ALOE, in botany, a genus of the hexandria monogynia clafs of plants, with a liliaceous flower, confifting of only one tubular leaf, divided into fix deep fegments at the edge: its fruit is an oblong capfule, divided into three cells, and containing a number of angulated feeds. See plate XIII. fig. 4.

Several fpecies of this exotic plant are cultivated in the gardens of the curious, where they afford a very pleafing variety, as well by the odd fhape of their leaves as by the different fpots with which they are variegated.

Some aloes are arborefcent, or divided into a number of branches, like trees; others are very fmall, growing clofe to the ground. The two moft confiderable fpecies are the aloe of America, and that of Afia; the former on account of its beautiful flowers, and the latter for the drug prepared from it.

ALOE, or ALOES, in pharmacy, the infpiffated juice of the afiatic aloe, prepared in the following manner: from the leaves, frefh pulled, is preffed a juice, the thinner and purer part of which is poured off, and fet in the fun to evaporate to a hard yellowifh fubftance, which is called fuccotrine aloe, as being chiefly made at Succotra. The thicker part, being put into another veffel, hardens into a fubftance of a liver-colour, and thence called *aloe hepatica*. The thickeft part, or fediment,



Fig. 1. ALKA, the AWK or RAZOR-BILL.

Fig. 2. ALKEKENGI.

Fig. 3. ALNUS, the ALDER-TREE.

Fig. 4. the ALOE.

T. Jefferys sculp.

ment hardens into a coarſe ſubſtance, called *aloe cabalina*, or the horſe-aloe, as being chiefly uſed as a purge for horſes.

This juice is famous for its purgative virtues, being uſually given in the form of a tincture in wine, which is called *hiera picra*: it purges off a large quantity of bilious ad pituitous humours, and promotes the menſes and hæmorrhoidal diſcharges; but then it ſhould always be adminiſtred with caution, and never given to people ſubject to ſpitting of blood, or hæmorrhages of any kind. It is alſo to be avoided in all acute and inflammatory diſorders, as well as by women with child, for fear of abortion.

ALOE *roſata*, a preparation of ſuccotrine aloes, which being diſſolved in the juice of roſes, or violets, and expoſed to the ſun, or put upon a ſlow fire, thickens to a conſiſtency proper for making pills.

Aloes is accounted an excellent purging medicine, eſpecially to cold conſtitutions, a good ſtomachic; and, applied outwardly, is extremely ſerviceable in cicatrizing wounds.

ALOE-WOOD, *lignum aloes, or xylo-aloes.* See the article XYLO-ALOES.

ALOETICS, a general term for all medicines, the baſis or principal ingredient of which is aloes.

Aloetics are reputed hurtful in hæmorrhages, as alſo in the teneſmus, hemicranium, *&c.*

ALOGIANS, in church-hiſtory, a ſect of antient heretics, who denied that Jeſus Chriſt was the logos or eternal word; and conſequently rejected the goſpel of St. John, as ſpurious.

ALOOF, in the ſea-language, a word of command from the perſon who conns to the man at the helm, to keep the ſhip near the wind, when ſailing upon a quarter-wind.

ALOPECIA, in medicine, denotes a falling off of the hair, occaſioned either by a defect of nouriſhment, or by a bad ſtate of the humours.

Some make a diſtinction between the *alopecia* and *defluvium capillorum*, as in the former, certain ſpots are left entirely bald; whereas, in the latter, the hair only grows exceſſively thin. They likewiſe diſtinguiſh it from the *ophiaſis*, as the baldneſs in this laſt creeps in ſpiral lines about the head, like the windings of a ſerpent. The intention of cure, however, ſeems to be much the ſame in them all, *viz.* to ſupply proper nouriſhment, where that is wanting; and to correct the bad qualities of the humours, where theſe are in fault.

To prevent the hair from falling off by degrees, the head is to be waſhed every night at going to bed, with a lye, prepared by boiling the aſhes of vine branches in red wine. A powder made by reducing hermodactyls to fine flour, is alſo recommended for the ſame purpoſe.

In caſes where the baldneſs is total, a quantity of the fineſt burdock roots are to be bruiſed in a marble mortar, and then boiled in white wine till there remains only as much as will cover them. This liquor, carefully ſtrained off, is ſaid to cure baldneſs, by waſhing the head every night with ſome of it warm. A lye made by boiling aſhes of vine branches in common water, is alſo recommended with this intention. A freſh-cut onion rubbed on the part till it be red, and itch, is likewiſe ſaid to cure baldneſs.

ALOPECURUS, FOX-TAIL-GRASS, in botany, a genus of the triandria digynia claſs of plants, the calyx of which is a bivalve glume, containing a ſingle flower: the valves are hollow, of an ovato lanceolated figure, equal in ſize, and compreſſed; the corolla is univalve; the valve is concave, and of the length of the cup, and has a very long ariſta inſerted into its back near the baſe. There is no pericarpium: the corolla itſelf remains, and contains the ſeed, which is ſingle and of a roundiſh figure.

ALOSA, in ichthyology, a ſpecies of *clupea*, with the upper jaw bifid at the extremity, and ſpotted with black; called in engliſh the ſhad, or mother of herrings. See the article CLUPEA.

ALOST, a town in the auſtrian Flanders, upon the river Dender, half-way between Bruſſels and Ghent.

ALOWAY, a port-town of Scotland, ſituated on the river Forth, remarkable for the coal mines in its neighbourhood: weſt longitude 3° 45′, north latitude 56° 10′.

ALPHA, among grammarians, the name of the firſt letter of the greek alphabet, anſwering to our A.

The alpha, when compounded with other words, is moſt frequently uſed in a privative or negative ſenſe, anſwering to the engliſh particle *in* or *un*: thus *agamus*, ἄγαμος, ſignifies *unmarried*, being compounded of the privative α and γάμος marriage. Sometimes, however, it augments the ſignification of the words it is compounded with, as ἄβιος, *valde robuſtus.*

As a numeral, alpha ſtands for one, or the

the firft of any thing; only, for diftinction fake, there ufed to be an acute accent placed over it, when not a letter of order, thus Α'.

Hence it is that we find alpha frequently ufed among antient writers, for the firft or principal perfon of a clafs or fet of men: thus Plato is called the alpha of wits, as Eratofthenes was furnamed beta, or the fecond Plato. And, for the fame reafon, it is ufed for the beginning of a thing, as omega for the laft; both which together, *viz.* Α and Ω, denote the eternity of God.

Alpha is alfo a title given by fome antient writers to the jewifh legiflator Mofes. The reafon of the appellation is much controverted. Helladius, in his Chreftomathia, and Ptolemy fon of Hepheftion, pretend that Mofes was infected with the leprofy, which the greeks call αλφος, and that hence arofe the denomination αλφα. This opinion feems to have owed its rife to a tradition among the heathens, that the Jews were expelled Egypt, becaufe they were over-run with this difeafe. A tradition fupported by Diodorus Siculus, Tacitus, Juftin, Apion, and others; but refuted by Jofephus.—A late writer apprehends, that the notion of Mofes's leprofy took its rife from that text in the old teftament, wherein the prophet, having put his hand into his bofom, drew it out again white as a leper, which the Septuagint render Αλφος.

Others have invented other reafons of the appellation, which do more honour to Mofes. Nicolai conjectures that he might have been denominated Alpha, on account of the fairnefs and brightnefs of his complexion, when he came from the mount; or from his being the chief, or leader of the jewifh people; or even from his being well learned, in regard the Hebrew word *Aleph*, from whence the Greek alpha was formed, fignified as much. If none of thefe will ferve, the fame author, from the confideration of the radical letters of the word alpha, deduces divers other myftical fignifications: Mofes might have been fo called, becaufe he was the moft meek of men; or in regard he mediated between God and the Jews; or becaufe he was flow of fpeech; or becaufe he converfed familiarly with God; or, in fine, becaufe he wrote a hiftory of the times before him.

ALPHABET, in matters of literature, the natural or accuftomed feries of the feveral letters of a language.

As alphabets were not contrived with defign, or according to the juft rules of analogy and reafon, but have been fucceffively framed, and altered, as occafion required, it is not furprizing that many grievous complaints have been heard of their deficiencies, and divers attempts made to eftablifh new and more adequate ones in their place.

All the alphabets extant are charged by bifhop Wilkins with great irregularities, with refpect both to order, number, power, figure, &c.

As to the order, it appears (fays he) inartificial, precarious, and confufed, as the vowels and confonants are not reduced into claffes, with fuch order of precedence and fubfequence as their natures will bear. Of this imperfection the greek alphabet, which is one of the leaft defective, is far from being free: for inftance, the Greeks fhould have feparated the confonants from the vowels; after the vowels they fhould have placed the diphthongs, and then the confonants; whereas in fact, the order is fo perverted that we find the ομικρον the fifteenth letter, in order of the alphabet, and the ωμεγα, or long o, the twenty-fourth and laft, the ε the fifth, and the η the feventh.

With refpect to number, they are both redundant and deficient; redundant, by allotting the fame found to feveral letters, as in the latin *c* and *k*, *f* and *ph*; or by reckoning double letters among the fimple elements of fpeech, as in the greek ξ and ψ, the latin *q* or *cu*, *x* or *cs*, and the *j* confonant; deficient in many refpects, particularly with regard to vowels, of which feven or eight kinds are commonly ufed, though the latin alphabet takes notice only of five. Add to this, that the difference among them, with regard to long and fhort, is not fufficiently provided againft.

The powers again, are not more exempt from confufion; the vowels, for inftance, are generally acknowledged to have each of them feveral different founds; and among the confonants we need only bring as evidence of their different pronunciation, the letter *c* in the word *circa*, and *g* in the word *negligence*. Hence it happens, that fome words are differently written, though pronounced in the fame manner, as *ceffio* and *feffio*; and others are different in pronunciation, which are the fame in writing, as *give*, *dare*, and *give*, *vinculum*.

Finally, the figures are but ill-concerted, there

there being nothing in the characters of the vowels anſwerable to the different degrees of apertion; nor in the conſonants analogous to their agreements or diſagreements.

Alphabets of different nations vary in the number of their conſtituent letters. The engliſh alphabet contains twenty-four letters, to which if *j* and *v* conſonant are added, the ſum will be twenty-ſix; the french, twenty-three; the hebrew, chaldee, ſyriac, and ſamaritan, twenty-two each; the arabic, twenty-eight; the perſian, thirty-one; the turkiſh, thirty-three; the georgian, thirty-ſix; the coptic, thirty-two; the muſcovite, forty-three; the greek, twenty-four; the latin, twenty-two; the ſclavonic, twenty-ſeven; the dutch, twenty-ſix; the ſpaniſh, twenty-ſeven; the italian, twenty; the ethiopic, as well as tartarian, two hundred and two; the indians of Bengal, twenty-one; the baramos, nineteen; the chineſe, properly ſpeaking, have no alphabet, except we call their whole language their alphabet: their letters are words or rather hieroglyphics, and amount to about 80,000.

If alphabets had been conſtructed by able perſons, after a full examination of the ſubject, they would not have been filled with ſuch contradictions between the manner of writing and reading, as we have ſhewn above, nor with theſe imperfections that evidently appear in the alphabets of every nation. Mr. Lodowic, however, and biſhop Wilkins, have endeavoured to obviate all theſe, in their univerſal alphabets or characters. See the article CHARACTER.

ALPHABET is alſo uſed for a cypher, or table of the uſual letters of the alphabet, with the correſponding ſecret characters, and other blank ſymbols intended to render the writing more difficult to be decyphered. See the article DECYPHERING.

ALPHABET, among merchants, a kind of index, with the twenty-four letters, in their natural order, in which are ſet down the names of thoſe who have open accounts, referring to the folios of the ledger.

ALPHABETICAL, ſomething belonging to, or partaking of, the nature of an alphabet. Thus we ſay, alphabetical order, method, *&c.*

ALPHETA, in aſtronomy, the ſame with lucida coronæ. See the article LUCIDA.

ALPHONSIN, in ſurgery, an inſtrument for extracting bullets out of gun-ſhot wounds.

This inſtrument derives its name from the inventor Alphonſus Ferrier, a phyſician of Naples. It conſiſts of three branches, which are cloſed by a ring. When cloſed and introduced into the wound, the operator draws back the ring towards the handle, upon which the branches opening take hold of the ball; and then the ring is puſhed from the haft, by which means the branches graſp the ball ſo firmly as to extract it from the wound. See the article GUN-SHOT WOUNDS.

ALPHONSINE TABLES, aſtronomical tables calculated by order of Alphonſus, king of Caſtile, in the conſtruction of which that prince is ſuppoſed to have contributed his own labour. See TABLE.

ALPHOS, ἀλφὸς, among phyſicians, a diſeaſe of the ſkin, otherwiſe called *leuce & vitiligo*; wherein it is rough, and ſprinkled as it were with white ſpots: for when theſe are black, the diſtemper is called melane.

ALPINIA, in botany, a genus of the monandria-monogynia claſs of plants, the corolla whereof is monopetalous, unequal, and as it were double; the exterior one is trifid, the upper ſegment is hollow, the two ſide ones flat, and it has a tube; the interior is ſhort, its edge is trifid, and the lower ſegment of the three hangs out beyond the lateral parts of the exterior corolla, the other two are emarginated, and the baſe is ventricoſe; the fruit is a fleſhy capſule, of an ovated figure, compoſed of three valves, and containing three cells; the ſeeds are numerous, of an ovated figure, with a prominent but truncated apex, and a caudated baſe.

ALPS, a chain of exceeding high mountains, ſeparating Italy from France and Germany.

Alps is ſometimes alſo uſed in a more general ſenſe, for any mountains of extraordinary height.

ALRAMECH, in aſtronomy, the name of a ſtar of the firſt magnitude, otherwiſe called arcturus. See ARCTURUS.

ALSACE, a province formerly belonging to Germany, but almoſt intirely ceded to France by the peace of Munſter, is ſituated between the river Rhine on the eaſt, and Lorrain on the weſt, Switzerland on the ſouth, and the palatinate of the Rhine on the north.

ALSEN, an iſland in the leſſer Belt, at the entrance

entrance of the Baltic fea, between Slefwic and Funen, E. longitude 10°. N. latitude 52° 12′.

ALSFIELD, or ASFIELD, a town of Heffe Caffel, in Germany, E. longitude 9°. N. latitude 50° 40′.

ALSINE, CHICKWEED, in botany, the name by which Tournefort calls the ftellaria of Linnæus, the flower of which is rofaceous; confifting of feveral petals difpofed in a circular form, and fometimes whole, fometimes bifid at the ends. The fruit is a membranaceous capfule, of a roundifh or conic fhape, and containing a number of feeds affixed to a placenta. See plate XIV. fig. 1. and STELLARIA. The alfines are reputed cooling, and therefore good in fervours of the blood, and confumptions arifing from hectical diforders.

ALSINE, in the Linnæan fyftem of botany, a genus of the pentandria trigynia clafs of plants, the calyx of which is a perianthium, confifting of five concave oblong and acuminated leaves; the corolla confifts of five equal petals, longer than the cup; the fruit is an oval covered capfule, containing only one cell: the feeds are numerous and roundifh.

ALSINELLA, in botany, the name by which Dillenius calls the plant fagina. See the article SAGINA.

ALSIRAT, in the mahometan theology, denotes a bridge laid over the middle of hell, the paffage or path whereof is fharper than the edge of a fword; over which, however, every body muft pafs at the day of judgment, when the wicked will tumble headlong into hell, whereas the good will fly over it like the wind.

ALT, in mufic, a term applied to the high notes in the fcale. See SCALE.

ALTAR, *altare*, or *ara*, a place upon which facrifices were antiently offered to fome deity.

The heathens at firft made their altars only of turf; in following times they were made of ftone, of marble, of wood, and even of horn, as that of Apollo in Delos. Altars differed in figure as well as in materials. Some were round, others fquare, and others oval. All of them were turned towards the eaft, and ftood lower than the ftatues of the gods, and were generally adorned with fculpture, infcriptions, and the leaves and flowers of the particular tree confecrated to the deity. Thus, the altars of Jupiter were decked with oak, thofe of Apollo with laurel, thofe of Venus with myrtle, and thofe of Minerva with olive.

The height of altars alfo differed according to the different gods to whom they facrificed. Thofe of the cœleftial gods were raifed to a great heighth above the ground; thofe appointed for the terreftrial were almoft on a level with the furface of the earth; and, on the contrary, they dug a hole for the altars of the infernal gods. According to Servius, the firft were called *altaria*, the fecond *aræ*, and the laft *crobiculi*; but this diftinction is not every where obferved, for we find in the beft authors, the word *ara*, as a general word, including the altars of cœleftial, infernal, and terreftrial gods.

Before temples were in ufe, altars were erected fometimes in groves, fometimes in the highways, and fometimes on the tops of mountains; and it was a cuftom to engrave upon them the name, proper enfign, or character of the deity to whom they were confecrated. Thus, St. Paul obferved an altar at Athens, with an infcription *To the unknown God.*

In the great temples of antient Rome, there were ordinarily three altars; the firft was placed in the fanctuary, at the foot of the ftatue of the divinity, upon which incenfe was burnt, and libations offered: the fecond was before the gate of the temple, and upon it they facrificed the victims: and the third was a portable altar, upon which were placed the offerings and the facred veffels.

Befides thefe ufes of the altars, the antients fwore upon them, and fwore by them in making alliances, confirming treaties of peace, and on other folemn occafions. Altars alfo ferved as a place of refuge and fanctuary to all thofe who fled to them, whatever crime they had committed.

Among the Jews, altars in the patriarchal times were very rude. The altar which Jacob fet up at Bethel was nothing but a ftone, which ferved him inftead of a bolfter; that of Gideon, a ftone before his houfe; and the firft which God commanded Mofes to erect to him, was probably of earth or unpolifhed ftones without any iron; for if any ufe was made of that metal, the altar was declared impure.

The principal altars of the Jews were thofe of *incenfe*, of *burnt-offering*, and the *altar*, or *table, for the fhew-bread*.

The altar of incenfe was a fmall table of fhittim wood, covered with plates of gold, of

Fig. 1. ALSINE.

Fig. 2. ALYSSOIDES.

Fig. 3. ALYSSON.

Fig. 4. ALTAR of Incense.

Fig. 5. ALTAR of Burnt Offering.

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of one cubit in length, another in width, and two in heighth. At the four corners were four kinds of horns, and all round a little border or crown over it. This was the altar hidden by Jeremiah before the captivity, and upon it the officiating prieſt offered, every morning and evening, incenſe of a particular compoſition. See plate XIV. fig. 4.

The altar of burnt-offerings was made of ſhittim wood, and carried upon the ſhoulders of the prieſts by ſtaves of the ſame wood, overlaid with braſs. In the time of Moſes, this altar was five cubits ſquare and three high, but in Solomon's temple it was much larger, being twenty cubits ſquare and ten in height. It was covered with braſs, and at each corner was a horn or ſpire wrought out of the ſame wood with the altar, to which the ſacrifices were tied. Within the hollow was a grate of braſs, on which the fire was made; through it fell the aſhes, and were received in a pan below. At the four corners of the grate were four rings and four chains, which kept it up at the horns. This altar was placed in the open air, that the ſmoke of the burnt-offerings might not fully the inſide of the tabernacle. See plate XIV. fig. 5.

The altar or table for the ſhew-bread, was likewiſe of ſhittim wood, covered with plates of gold, having a little border round it, adorned with ſculpture. It was two cubits long, one wide, and one and an half in height. Upon this table, which ſtood in the holy of holies, were put every ſabbath-day, twelve loaves, with ſalt and incenſe. See the article SHEW-BREAD.

The jewiſh altars, after the return from the captivity, and the building of the ſecond temple, were in ſome reſpects different from thoſe deſcribed above.

That of burnt-offerings, was a large pile, built of unhewn ſtones, thirty-two cubits ſquare at the bottom, and twenty-four ſquare at the top. The aſcent was by a gentle riſing thirty-two cubits in length, and ſixteen in breadth.

ALTAR is alſo uſed, among chriſtians, for the communion-table. See the article COMMUNION-TABLE.

The denomination altar, is undoubtedly founded on the notion of the euchariſt's being a proper ſacrifice. See the article EUCHARIST.

In the greek church there is a preparatory kind of altar, called *altar of protheſis*; whereon the bread is bleſſed, before it is carried to the large altar.

ALTAR is ſometimes alſo uſed to denote the offerings made at the altar, in contradiſtinction from the ſettled revenues of a church, called ſimply *eccleſia*.

ALTAR, *ara*, in aſtronomy. See ARA.

ALTAR-THANE, in our old law-books, an appellation given to the prieſt, or parſon of a pariſh, to whom the altarage belonged. See the article ALTARAGE.

ALTARAGE, among eccleſiaſtical writers, denotes the profits ariſing to a prieſt on account of the altar, as well as the offerings themſelves made upon it.

ALTARIST, *altariſta*, the ſame with altar-thane. See ALTAR-THANE.

ALTEA, a ſea-port town of Spain, ſituated upon the Mediterranean-ſea, in the province of Valencia, about forty-five miles ſouth of the city Valencia. W. lon. 15′. N. lat. 38°. 40′.

ALTEMBURG, a town of Tranſilvania, ſubject to the houſe of Auſtria, ſituated in 23° eaſt longit. and 46°. 25′. north lat.

ALTENA, a port-town of Holſtein, in Germany, ſituated on the river Elbe. It belongs to the Danes, and is the place where all their eaſt-india goods are ſold.

ALTENBURG, a town of Miſnia, in upper Saxony, about twenty-five miles ſouth of Leipſic, and ſubject to the duke of Saxe-altenburg. E. longit. 12°. 40′. N. lat. 50°. 50′.

ALTENBURG-OWAR, a fortified town of lower Hungary, ſituated on the river Danube, and ſubject to the houſe of Auſtria. E. lon. 17°. 20′. N. lat. 48°. 15′.

ALTERANTS, or ALTERATIVE *medicines*, in pharmacy, *&c.* an appellation given to all ſuch medicines as correct the bad qualities of the blood and other animal fluids, without occaſioning any ſenſible evacuation.

Alterants, in this ſenſe, make one of the capital ſpecies, or diviſions of medicines. They ſtand oppoſed to evacuants; and are alſo contradiſtinguiſhed from ſtrengtheners, *&c.*

We meet with medicines of the purgative kind, repreſented by practical writers as alterants; the colocynth particularly by Helmont: for all medicines which operate in the fartheſt paſſages, they frequently include under that appellation.

Accordingly it is found of ſervice to give ſuch medicines as are properly cathartic, by way of alteratives, in ſtubborn, chronical caſes; thus, *tinctura ſacra*, for inſtance, given in the quantity of half a ſpoonful for a doſe, has no immediate

P 2 effect

effect upon the inteſtines, ſo as to diſcharge their contents, but paſſes into the further ſtages of circulation.

Dr. Woodward enquires into the efficacy of ſeveral of the moſt celebrated alterants, and endeavours to ſhew on what little foundation their great uſe is eſtabliſhed. Of this number, according to him, are the abſorbents, cortex peruvianus, bitters, ſalts, ſteel and its preparations, mineral waters, *&c.*

The more efficacious and uſeful alterants, according to the ſame writer, are cordials, ſtomachics, attenuants, mercurius dulcis, vegetable oils, mucilages, certain abſorbents, and ſome preparations of opium.

According to this learned phyſician, all that is commonly alledged concerning the change of the principles, or ferments of diſeaſes, by alterant remedies, is merely chimerical and imaginary; that there is no change made to the advantage of the human body, without a ſucceſſive renovation, and diſcharge of what is hurtful, and a ſupply of its place by ſomething innocent.

The primitive or conſtituent elements of bodies never change their figure, magnitude, ſolidity, or gravity, but remain ſtill the ſame as at the creation. Hence ſome infer, 1. The vanity of all pretences to the tranſmutation of metals. And, 2. The folly of pretending to change the maſs of blood, by thoſe remedies called alterants.

The mixtures and combinations of the primitive elements are almoſt infinite, and their alterations as to ſenſe and external appearance is ſo too. It may be added, that among alterant medicines, there are ſeveral which change the ſcene of the ſymptoms; others ſuſpend the action of the morbific matter for a time; and others diminiſh the ſenſibility of the organs. But theſe remedies, which hold the morbific principles captive for a time, are only palliatives, and even on ſome accounts, dangerous, ſince they may as well captivate other principles neceſſary to life. Woodward gives the preference to evacuants, as being the only medicines capable of freeing the machine from what incommodes it.

Some take a contrary courſe, and aſcribe even the ſalutary effects of evacuants to their alterative nature. This has been alledged of mercury in the venereal diſeaſe; the like is urged concerning minoratives, which ſome maintain do not work a cure by evacuation, ſo much as by alteration. The like is alledged of ipecacuanha in the cure of the dyſenteries, and of divers other emetics, in caſes of apoplexies. In effect, evacuating medicines, as they do not ſeparate the good from the bad, ſeem indifferently diſpoſed, either to do harm or good.

Alterants operate chiefly by ſweetening what is too ſour and acid, cooling what is over hot, and the like. Hence the diviſion of them into abſorbents, calmers, attenuants, emollients, and demulcents. See the articles ABSORBENTS, *&c.*

ALTERATE or ALTERAL, in muſic and geometry. See the article SESQUI.

ALTERATION, *alteratio*, in a general ſenſe, denotes ſome variation in the qualities or circumſtances of a thing, without wholly changing its nature. Thus, a piece of cloth is altered by being dyed a different colour; ſo is a piece of wood, by being faſhioned into a different ſhape; and ſo in other caſes.

ALTERATION, in medicine, is particularly uſed to denote the action of alterant medicines. See the article ALTERANTS.

Alteration, in a ſtill more limited ſenſe, is uſed for the change which food undergoes before it becomes proper nouriſhment to the body; in which ſenſe it comprehends digeſtion and aſſimilation. See DIGESTION and ASSIMILATION.

ALTERATIVE MEDICINES, the ſame with alterants. See ALTERANTS.

ALTERCATION, a debate between two companions. Thus, we ſay, they have continually ſome altercation, though they never come to an open rupture.

ALTERN-BASE, in trigonometry, a term uſed in contradiſtinction to the true baſe. Thus, in oblique triangles, the true baſe is either the ſum of the ſides, and then the difference of the ſides is called the altern baſe; or the true baſe is the difference of the ſides, and then the ſum of the ſides is called the altern baſe.

ALTERNATE, in a general ſenſe, a term applied to ſuch perſons or things as ſucceed each other by turns. Thus, two who command each his day, are ſaid to have an alternate command, or to command alternately.

ALTERNATE, in heraldry, is ſaid in reſpect of the ſituation of the quarters. Thus the firſt and fourth quarters, and the ſecond and third, are uſually of the ſame nature, and are called alternate quarters.

ALTERNATE, in botany, ſuch a diſpoſi-

tion of the leaves of a plant, that the firſt on one ſide of a branch ſtands higher than the firſt on the other ſide, the ſecond the ſame, and ſo on to the top.

ALTERNATE ALLIGATION in arithmetic. See the article ALLIGATION.

ALTERNATE ANGLES, in geometry. See the article ANGLE.

ALTERNATE PROPORTION. See the article PROPORTION.

ALTERNATION properly ſignifies a ſucceſſion by turns. See ALTERNATE.

ALTERNATION is alſo uſed for the different ways which any number of quantities may be changed, or combined. See the article COMBINATION.

ALTERNATIVE, in a general ſenſe, denotes much the ſame with alternate. See the article ALTERNATE.

ALTERNATIVE PROMISE, that whereby two or more perſons are bound, conjunctly and ſeverally, to perform ſomething; which being done by any one of them, all the reſt are acquitted.

ALTERNATIVE PROPOSITIONS, the ſame with thoſe more uſually called disjunctive ones. See the article DISJUNCTIVE PROPOSITION.

ALTHÆA, MARSH-MALLOW, in botany, a genus of plants, with a double calyx, the exterior one being divided into nine ſegments; the fruit conſiſts of numerous capſules, each containing a ſingle ſeed. It belongs to the monadelphia polyandria claſs of Linnæus.

Its flowers and fruit are nearly the ſame with thoſe of the *malva*, or mallow. See the article MALVA.

Althæa is much uſed as an emollient. The root and leaves are of great uſe againſt ſharp corroding humours in the ſtomach; alſo balſamic and pectoral, and are often ordered in clyſters for the ſtone, and in cataplaſms and fomentations againſt ſwellings.

ALTIMETRY, *altimetria*, denotes the art of meaſuring altitudes or heights. See the articles ALTITUDE and HEIGHT.

ALTIN, a kingdom of Aſia, in great Tartary, between the ſources of the Irtich and the Oby. It is bounded on the north by the Kirgiſes, on the eaſt by the Amaduners, on the ſouth by the kingdom of Eluth, and on the weſt by the Irtich, which ſeparates it from Barabinſkoi.

ALTIN is alſo the capital of the kingdom of that name, ſituated in the northern part of the kingdom, at the head of the river Kilam.

ALTIN, in commerce, a kind of money current in Muſcovy, worth three copics.

ALTINCAR, among metallurgiſts, a kind of flux-powder, uſed in the fuſion and purification of metals.

ALTITUDE, *altitudo*, in geometry, one of the three dimenſions of body; being the ſame with what is otherwiſe called height. See the article HEIGHT.

Altitude of a figure, is the diſtance of its vertex from its baſe, or the length of a perpendicular let fall from the vertex to the baſe. See the articles FIGURE, PERPENDICULAR, &c.

ALTITUDE, in optics, is the height of an object above a line, drawn parallel to the horizon from the eye of the obſerver.

ALTITUDE *of the eye*, in perſpective, is its perpendicular height above the geometrical plane.

ALTITUDE *of a ſtar*, &c. in aſtronomy, is an arch of a vertical circle, intercepted between the ſtars and the horizon.

This altitude is either true or apparent, according as it is reckoned from the rational or ſenſible horizon, and the difference between theſe is what is called by aſtronomers the parallax of altitude. See the article PARALLAX.

Near the horizon, this altitude is always increaſed by means of refraction. See the article REFRACTION.

Sailors commonly take the altitudes of ſtars with a quadrant, but as this method is liable to an error of ſix, ſeven, or more minutes, by reaſon of the motion of the ſhip, as well as the coarſeneſs of their inſtruments, Mr. Parent has given a new way of finding their altitudes, by means of a common watch. His method is this: having obſerved the difference of time between the riſing of two ſtars, the right aſcenſion and declination of which are known from aſtronomical tables, it will be eaſy to diſtinguiſh that part of the difference which ariſes from their different poſition from that ariſing from the obliquity of the ſphere. Now this laſt is preciſely the altitude of the pole of the place of obſervation; for as to the way the ſhip may have made between the riſing of the two ſtars, it is ſo ſmall as to be ſafely overlooked, or at moſt eſtimated in the common way of reckoning.

As to the methods of taking the meridian altitude of the ſun, or of a ſtar, by means of a gnomon, or quadrant. See the articles GNOMON, and QUADRANT.

ALTITUDE *of motion*, according to Dr. Wallis, is its meaſure eſtimated in the line of direction of the moving force.

ALTITUDE, in aſtrology, is the ſame with what is otherwiſe called exaltation. See the article EXALTATION.

ALTITUDE *of fluids* is more uſually expreſſed by the term depth. See DEPTH.

Determinative ALTITUDE, that from whence a heavy body falling, acquires a certain velocity by its natural acceleration.

ALTITUDE *of the equator*. See EQUATOR.

ALTITUDE *of the nonageſimal*. See the article NONAGESIMAL.

Circles of ALTITUDES, See CIRCLE.

Parallels of ALTITUDE. See PARALLEL.

ALTKIRK, a town of Alſace in Germany, ſituated on the river Ill, in N. lat. 47°. 40′ and E. lon. 7°. 15′.

ALTMORE, a town of Ireland, in the county of Tyrone, and province of Ulſter, ſituated in N. latit. 54°. 34′. and W. longit. 7°. 8′.

ALTMUL, a river of Germany, which ariſing in Franconia, runs ſouth-eaſt by the city of Anſpach; and continuing its courſe eaſt by Papenheim and Aichſtet, falls into the Danube at Kelheim, about twelve miles above Ratiſbon.

ALTO and BASSO, in law, denotes the abſolute ſubmiſſion of all differences high and low to ſome arbitrator.

ALTO-RELIEVO. See RELIEVO.

ALTO RIPIENO, in muſic, the tenor of the great chorus which ſings or plays only now and then in ſome particular places.

ALTORF, a town of Germany, in the circle of Swabia, ſituated in N. latitude 47° 46′. and E. longitude 9° 35′.

ALTORF is likewiſe the name of a town in the circle of Franconia, ſituated in N. latitude 49°. 20′. and E. longitude 11° 20′.

ALTORF is alſo the capital of the canton of Uri, in Switzerland, ſituated on the lake Lucern, in N. latitude 46°. 50′. and E. longitude 8°. 30′.

ALTZHEIM, or ALTZEY, a town of Germany, ſituated in N. latit. 49° 45′. and E. long. 7°. 52′. about forty-two miles north-weſt of Heidelberg.

ALVA DE TORMES, a town of Spain, in the Province of Leon, ſituated on the river Tormes, in N. latit. 41°. and W. long. 6°. about ſixteen miles ſouth-eaſt of Salamanca.

ALUDELS, in chemiſtry, are earthen pots ranged one above another, for retaining the flowers which aſcend in the proceſs of ſublimation. See the article SUBLIMATION. The loweſt aludel is fitted to a pot, placed in the furnace, wherein is the matter to be ſublimed; and at top is a cloſe head, to retain the flowers which aſcend higheſt.

ALVEARIUM properly ſignifies a bee-hive, from *alveus*, a channel, or cavity. Hence,

ALVEARIUM, among anatomiſts, denotes the hollow of the auricle, or outer ear. See the article EAR.

ALVEOLUS, in natural hiſtory, properly denotes one of thoſe waxen cells, whereof the combs in bee-hives conſiſt. Theſe *alveoli*, or cells, ſerve for different purpoſes. As ſtore-houſes, they preſerve honey and wax for future uſe; and as nidules, they ſerve to defend the embryo-bees while hatching. See the article BEE.

Naturaliſts and mathematicians have beſtowed no little pains in examining the ſtructure of theſe cells; the form of which appears to be the moſt commodious that it is almoſt poſſible for art to invent, as requiring the leaſt wax to contain the ſame quantity of honey. The body of the cell is hexagonal, or conſiſts of ſix ſides; and the baſes are of a pyramidal figure, compoſed of three rhombuſes, the oblique angles of which have been found by menſuration to be nearly 110°, varying only about half a degree from what, by the ſtricteſt rules of geometry, they ought to be, *viz.* 109°. 28′. 16″.

As to the diſpoſition and arrangement of theſe cells in combs. See HONEY-COMB.

ALVEOLUS, in anatomy, the ſocket-like cavity in the jaws, wherein each of the teeth is fixed.

ALVEOLUS, in botany, a name given to the cells in which the ſeeds of certain plants, as the dipſacus and corona ſolis, are ranged.

ALVEOLUS, in the hiſtory of foſſils, a marine body, not known at preſent in its recent ſtate, but frequently found foſſile. The alveoli are of a conic ſhape, and compoſed of a number of cells, like ſo many bee-hives, jointed into one another, with a ſiphunculus, or pipe of communication, like that of the nautilus. They are ſometimes met with entire, but more frequently truncated, or with their ſmaller ends broken off.

ALVEUS, properly ſignifies a channel; and hence is uſed by ſome anatomiſts for the tumid lacteal veſſels, proceeding from the receptaculum chyli.

ALVEUS is alſo uſed in roman antiquity, for

for a kind of boat, fashioned out of the trunk of a single tree: such was that in which Romulus and Remus were exposed.

ALUM, *alumen*, in natural-history a peculiar kind of salt, separated by art from various substances. In Italy, it is obtained from a soft reddish stone; about Puteoli, from several kinds of earth; and in England, from a whitish or bluish stone, called irish slate.

In some parts of the world, alum is found pure; having been washed from its ore by water, and afterwards, on the evaporation of the water, left in a dry form. Alum bears a near affinity to vitriol, in respect of the saline principle, *i. e.* the acid spirit, which is the same in both. It differs from vitriol, as this latter is found to have a metalline basis, *e. gr.* iron or copper; whereas the basis or matter of alum, wherewith the saline part is united, is an alcalious or chalky earth, or stone, resembling lime-stone, as appears from the origin and preparation of alum, and from the stony sediment it deposits by solution. See the article VITRIOL.

Alum also bears a near conformity with sulphur, as both are formed from the same saline spirit; which, if it meet with a stony substance, forms alum, with a bituminous one, sulphur. See the article SULPHUR.

Alum then is formed of the universal acid, or fluid salt combining with a chalky earth.—The same acid, with a mercurial earth forms common sea salt, and with a moist, rocky, or clay earth, sal gemmæ. This system is confirmed, by what naturalists have observed concerning the origin of the native alum in the isle of Chio. That island is a hollow spungy rock, penetrated on all parts by the sea-water. M. Tournefort considers the whole as a natural laboratory, wherein the sea-water undergoes much the same action in it as in our retorts. By this means, an acid spirit is separated from it, which penetrating the substance of the rocks, dissolves and incorporates with them, and forms mines of alum. This seems hardly to be doubted, inasmuch as by pouring spirit of salt on common stones, or chalk, aluminous concretions are readily formed. The same spirit mixing with a bitumen under-ground, forms sulphur.

Some attribute the origin of alum chiefly to a sulphureous principle acting on, corroding of, and coagulating with a mineral substance, usually of a terrene and stony, rather than metallic nature, tho' that metal be often contained in the alum stone. That the sulphur is the chief efficient and material cause of this production, seems to appear hence, that many alum stones distilled *per descensum*, yield good brimstone, and all alum stones during calcination, emit a sulphureous steam. An inquisitive naturalist gathered from the very same rock, and that within a few inches of each other, both vitriol, alum, and sulphur, all of them excellent in their kind. Indeed those three minerals are so nearly allied, that an ingenious chemist assures us, he can, by some artifices, convert alum into vitriol, or vitriol into alum, the same to all intents and purposes, with the natural.

Alum is ranked by Homberg, and others, as an urinous neutral salt, on account of the urinous smell it exhales by burning, and its use in the volatilization of fixed salts. Yet some deny alum to belong to the class of salts, and rank it rather among stony substances; by reason that after dissolving alum, and precipitating the solution with oil of tartar *per deliquium*, the coagulation at the bottom, resembles a stony calx, and being exposed to the fire will neither melt nor sublime.

The ore of alum, if mature, yields its salt immediately, and without trouble; but if less mature, it requires a previous calcination, as is the case in many of our English alum stones; and if very crude or immature, it must not only be burnt, but a long time exposed to the air before it will yield its salt. From this it appears, that the alum is not a genuine and native salt, but is composed by the acid of sulphur, corroding some peculiar earth or stone, as vitriol is by its corroding some metal; and that, in both these operations, this corroding acid can sometimes perform its business, while it lies in the bowels of the earth; and sometimes while it lies in the open air, tho' it failed of it while buried.

Alum distilled into an acid spirit, with copper, or iron, becomes good vitriol; and vitriol freed from its metallic parts becomes aluminous; and, being distilled, yields a spirit not to be distinguished by the taste from that of alum, and even scarce by the most accurate scrutiny. Rectified oil of vitriol, or spirit of sulphur, of the same degree of strength, will sometimes concrete into a solid and transparent substance, resembling crystallized alum; and this substance is nowise different whether prepared by one or the other of these ways, and in both resembles

bles the pureſt alum, ſo as not to be diſtinguiſhable from it unleſs by taſting it. Alum ores generally contain vitriol as as well as alum, and are capable of great fermentation, when expoſed to the air, tho' they would never have been ſubject to it while buried in the earth. They will become ſo hot in the heap, that it is ſcarce poſſible to endure the hand upon them; and ſometimes will break out into abſolute flame. The acid and the ſulphur they contain are the occaſion of this, as, according to Sympſon, and ſome others, they are of all ſubterranean fermentations and heats; and the whole is not badly explained, by the familiar inſtance of adding water to rectified oil of vitriol. The acid and the ſulphur of that fluid are, as in theſe ores, ſo combined as not to exert their forces naturally againſt one another, but all is quiet as in theſe ſtones while under-ground, but the water does to the one, what the air does to the other; ſends in a third, which not agreeing with either of the other, diſturbs and ſets their particles in motion, and the veſſel containing the liquid becomes as hot to the touch in the one caſe, as the ſolids themſelves are in the other.

Proceſs of making ALUM. At Whitby, in Yorkſhire, alum is made thus: having burnt a quantity of the ore with whins, or wood, till it becomes white; they then barrow it in a pit, where it is ſteeped in water for eight or ten hours. This liquor, or lixivium, is conveyed by troughs to the alum-houſe into ciſterns, and from them into the pans, where it is boiled about twenty-four hours. Then add a certain quantity of the lee of kelp; the whole is drawn off into a ſettler; where having remained about an hour, that the ſulphur and other dregs may have time to ſettle to the bottom, it is conveyed into coolers. This done, to every tun of the liquor they add about eight gallons of urine; and having ſtood four days and nights, till quite cool, the alum begins to cryſtalize on the ſides of the veſſel, from which being ſcraped off, it is waſhed with fair water, and then thrown in a bing, to let the water drain off. After this it is thrown into a pan, called the roching pan, and there melted; in which ſtate it is conveyed by troughs into tuns, where it ſtands about ten days, till perfectly condenſed. Then ſtaving the tuns, the alum is taken out, chipped, and carried to the ſtore-houſes.

This is what we commonly call roche or rock alum, as being prepared from ſtones cut from the rocks of the quarry; and ſtands contradiſtinguiſhed from the common alum, or that prepared from earths. The method of making alum in Italy is ſomewhat different from the former. Mr. Geoffroy had an exact information, in Italy, of the method of making roche-alum at Civita Vecchia. Near that city are quarries of a greyiſh or reddiſh ſtone, pretty hard, like the travertin. They calcine theſe ſtones in kilns, and then boil the calx in water over a ſtrong fire. The water diſſolves all the ſalt contained in the calx, and there remains an inſipid earth. The water, thus impregnated, is left to cool, and the ſalt ſhoots into cryſtals, like tartar, about the ſides and bottom of the caſk, which is the roche-alum.

Properties and uſes of ALUM. In medicine alum is a very valuable and powerful aſtringent: the old authors are full of its praiſes in ſtopping hæmorrhages of all kinds, in faſtening the teeth, and in ſtrengthening the gums; on this account it was an ingredient in all their dentifrices, and obtains a place in moſt of ours to this day. Alum, mixed with honey, cures the aphthæ; and with the juice of knotgraſs, is good for exanthemata and rheums in the ears; with cabbage-leaves and boiled honey, it is effectual in the leproſy; and very good in warm water to make a fomentation for the itch, paronychia, pterygia, and kibes; to ſcour away all nits and lice, and to anoint ſcalds or burns.

Alum, in colouring and dying, not only ſerves to bind the colour upon the ſtuffs, and has the ſame uſe there that gum-water and glutinous oils have in painting, but likewiſe diſpoſes ſtuffs to take colour, and adds a briſkneſs and elegance to them. It alſo preſerves paper that has been dyed in its water, from ſinking when wrote upon; and is therefore extremely proper for waſhing prints deſigned to be coloured, for it will not only fix the paper ſo that the colours will not run, but will alſo help to brighten them. In whatever form alum is found, whether naturally pure, in rough ore, or purified by art, when diſſolved and made into a pure ſalt, it exhibits the ſame marks and characters: it will not run *per deliquium*, or melt to a fluid in a moiſt air. It requires fifteen times its own weight of water to diſſolve it perfectly; and when a

proper quantity of that is evaporated, it forms octogonal cryftals, of a fweet, auftere and very ftyptic tafte.

A folution of alum coagulates milk, turns the tincture of heliotropium purple, makes no alteration in the folution of corrofive fublimate, turns the infufion of galls turbid and whitifh; with falt of tartar it concretes into a white coagulum, without any fenfible heat or fmoke; and often upon mixing this folution with oil of tartar, an urinous fmell is perceived; but this only happens when the alum has been purified with urine. There is no fuch fmell from the roman alum.

Artificial ALUM, that prepared by art, in contradiftinction from the native alum.

Artificial alum is alfo ufed for alum produced by caufing burnt earthen veffels imbibe a large quantity of oil of vitriol; the effect of which is, that they are thereby reduced to a mucilage, which being expofed to the open air, affords cryftals of pure alum. Tobacco-pipes, wetted with fpirit of fulphur, likewife afford beautiful cryftals of plumofe allum. See the article *Plumofe* ALUM, *infra.*

Burnt ALUM is that melted in a fire-fhovel, or crucible, where it is allowed to bubble till it becomes a white hard fubftance.

The watry part of the alum being thus expelled, the remainder is left poffeffed of all its acids, lefs clogged, and more in a condition to exert its effects. It proves a gentle efcharotic, and is ufed in fmall quantities, mixed with other ingredients, in tooth-powders.

Native ALUM, or *Foffile* ALUM, that formed by nature, without the affiftance of art. There are ftill mines of native alum in the ifland of Chio, confifting of a kind of vaults, or apartments, crufted over with alum, which may be looked upon as exfoliations from the rock.

Plumofe ALUM, or *Plume* ALUM, a kind of natural alum, compofed of a fort of threads, or fibres, refembling feathers; whence it has its name.

Prepared ALUM, or *Purified* ALUM, that which is diffolved in hot rain-water, and afterwards made to cryftallize, by evaporating the water.

Roche-ALUM, or *Rock*-ALUM. See the article *Procefs of making* ALUM, *fupra.*

Roman ALUM, a fort of rock alum, of a reddifh colour, made in the country near Rome.

Saccharine ALUM is a compofition of common alum with rofe-water and the whites of eggs, which being boiled to the confiftence of a pafte, is formed in the fhape of a fugar loaf; hence it obtained its name: it is ufed as a cofmetic.

ALUM-WATER. See the next article.

ALUMINOUS, an appellation given to fuch things as partake of the nature and properties of alum. See ALUM.

ALUMINOUS WATERS, thofe impregnated, either naturally or artificially, with the virtues of alum.

Of the former kind is the fpaw at Scarborough reprefented to be; and of the latter, the *aqua aluminofa* of the fhops. See the articles SCARBOROUGH, and AQUA *aluminofa.*

ALVUS, in anatomy, denotes the lower belly, or *venter*; but Celfus ufes it to fignify the belly relative to ftools. Thus *Alvus liquida* is when the fæces are liquid, and *alvus adftricta* when the belly is bound.

ALYSSOIDES, in botany, a fpecies of alyffum, with cruciform flowers, and elliptical fruit, divided by an intermediate membrane into two cells, which contain a confiderable number of orbicular, flat, and marginated feeds. See plate XIV. fig. 2. and the next article.

ALYSSO, or ALYSSUM, MAD-WORT, in botany, a genus of the tetradynamia filiculofa clafs of plants; the flower is of the cruciform kind, and confifts of four leaves: the fruit is a fmall roundifh capfule, divided into two cells, in which are contained a number of fmall roundifh feeds. See plate XIV. fig. 3.

As to the medicinal virtues of alyffon, it is faid to be aperitive, and good for the bite of a mad dog; being of a very penetrating and diaphoretic nature, and agreeing in other refpects with the fcurvygrafs.

ALYTARCHA, a prieft of Antioch, in Syria, who, in the games inftituted in honour of the gods, prefided over the ἀλύται, or officers who carried rods to clear away the crowd, and keep order.

In the olympic games, the alytarches had the fame command, and obliged every perfon to preferve order and decency.

ALZIRA, a town of Spain, in the province of Valencia, fituated on the river Xucar, about eighteen miles fouth of the city of Valencia. W. lon. 20° N. lat. 39°. 10′.

AMABYR, or AMVABYR, a barbarous cuftom which formerly prevailed in Wales and fome other parts of the kingdom; being a certain fine, or fum of money, paid to the lord, upon marrying a maid within his manor.

AMADABAT, a large, populous, trading city in the Eaſt-Indies, the capital of the province of Guzurat, or Cambay, and ſituated in 72° eaſt longitude, and 23° 40′ north latitude.

AMADANAGER, a town in the higher peninſula of India, ſituated in 74° 15′ eaſt longitude, and 18° north latitude.

AMADIA, a city of aſiatic Turky, in the province of Curdeſtan, ſituated on a high mountain, in 43° eaſt longitude, and 37° north latitude.

AMAIN, or AMAYNE, in the ſea-language, a term importing to lower ſomething at once. Thus, to ſtrike amain, is to lower, or let fall, the top-ſails; to wave amain, is to make a ſignal, by waving a drawn ſword, or the like, as a demand that the enemy ſtrike their top-ſails.

The term amain, is alſo uſed in lowering a yard, or letting any thing down into the hold, as a word of command to do it gently, and by degrees.

AMAK, or AMAKA, an iſland of Denmark, lying in 13° 5′. eaſt longitude, and 55° 29′ north latitude, and ſeparated by a very narrow channel from Copenhagen.

AMALFA, a city of Italy, in the kingdom of Naples, and province of the hither Principato. It is the ſee of an archbiſhop, and remarkable for giving birth to Flavius Blendus, inventor of the ſeaman's compaſs. Eaſt longitude 15° 20′, north latitude 48° 50′.

AMALGAM, *amalgama*, denotes a maſs of mercury united and incorporated with ſome metal. See AMALGAMATION.

Amalgams grow ſoft with heat, and hard with cold; and the metals amalgamated with mercury, aſſume a conſiſtence harder or ſofter, in proportion to the quantity of mercury employed in the amalgam.

Amalgams are uſed either to render a metal fit to be extended on ſome works, as in gilding; or elſe to reduce the metal into a very ſubtile powder.

Thus gilders, to lay gold on any other body, diſſolve it in hot mercury; which done, they apply the ſolution on the body to be gilt, then ſetting it over the coals, the mercury evaporates, and leaves the gold adhering to the body like a cruſt.

The amalgams of gold, ſilver, tin, lead, zinc, biſmuth, and copper, are all white; and when the proportion of the quantity of the metal to that of mercury is conſiderable, they form a kind of paſte.

AMALGAMATION, in chemiſtry, the operation of making an amalgam, or of mixing quickſilver with ſome metal, is performed by fuſing, or at leaſt igniting the metal, and in this ſtate adding a proportion of mercury to it; upon which they mutually attract and incorporate with each other.

Of all metals, gold unites with mercury with the greateſt facility; next to that, ſilver; then lead, tin, and every metal, except iron and copper, the laſt of which incorporates with quickſilver with great difficulty, and the former ſcarce at all.

The amalgam of gold is thus made: take a dram of the regulus of gold, beat it into very thin plates, and upon theſe, heated in a crucible red hot, pour an ounce of quickſilver; ſtir the matter with an iron rod, and when it begins to fume, caſt it into an earthen pan filled with water, and it will coagulate and become tractable. Gold will retain about thrice its weight of mercury.

To make an amalgam of lead: melt clean lead in an iron ladle, add to it an equal weight of heated mercury, ſtir them together with an iron rod, then let them cool, and you will have an uniform maſs of a ſilver colour, ſomewhat hard, but growing ſofter and ſofter by trituration. Put this maſs into a glaſs mortar, grind it, and mix with it any quantity of mercury at pleaſure, and it will unite with it, as ſalt with water.

The amalgam of tin is made exactly in the ſame manner, and this alſo may be diluted by the addition of mercury.

To have an amalgam of copper; take a ſolution of pure copper, made in aqua fortis, ſo ſtrong that the aqua fortis could diſſolve no more of the metal; dilute the ſolution with twelve times its quantity of fair water; heat the liquor, and put into it poliſhed plates of iron, and the copper will be precipitated in a powder to the bottom, while the iron will be diſſolved: proceed thus till all the copper is fallen, pour off the liquor, waſh the powder with hot water, till it becomes perfectly inſipid: then dry the powder, and grind it in a glaſs mortar with an equal weight of hot quickſilver, and they will unite into an amalgam, which will alſo receive a further addition of mercury.

An amalgam of copper in any other way is very difficult to make.

Pure ſilver precipitated from aqua fortis, may in the ſame manner be made into an amalgam.

From theſe operations we may perceive, that

that the making of amalgams is the foundation of the art of gilding, both in gold and silver, and that metals by that art may be mixed, confounded, and secretly concealed among one another.

AMANCE, a town of Lorrain, situated in 6° 10′ east longit. and 48° 40′ north latitude, about seven miles north-east of Nancy.

AMAND, or ST. AMAND, the name of two towns; one situated in the dutchy of Bourbon, in the province of Lyonois, in France; and the other in french Flanders, about six miles north of Valenciennes.

AMANTEA, a sea-port town and bishop's see of the kingdom of Naples, situated near the bay of Euphemia, in the province of Calabria, in 16° 20′ east longitude, and 39° 15′ north latitude.

AMAPALLA, a sea-port town of Mexico, in the province of Guatimala, situated on the Pacific ocean, in 93° west longitude, and 12° 30′ north latitude.

AMARANTA, or AMARANTE, an order of knighthood, instituted in 1653, by Christina queen of Sweden, in memory of a masquerade, wherein she had assumed that name, which signifies unfading, or immortal. Her nobility likewise assumed different characters, *viz.* of gods, goddesses, shepherds, nymphs, *&c.* and so well pleased was the queen with the diversion, that she instituted this order in memory of it, consisting of sixteen lords and as many ladies, with the motto *dolce nella memoria.*

AMARANTH, *amaranthus*, in botany, the name of a genus of plants, sometimes called prince's feather, the flower of which is rosaceous, and its fruit an oval or roundish capsule, containing only one large seed of a roundish compressed shape. See plate XV. fig. 1.

All the species of this genus, which belongs to the *monoecia-pentandria* class of Linnæus, are drying and astringent; accordingly we find the flowers of the common large garden-kind, dried and powdered, recommended in diarrhœas, dysenteries, and hæmorrhages of all kinds, as well as for incontinence of urine.

AMARANTHOIDES, in botany, a species of gomphrena, with flosculous flowers collected into a squamose head and a roundish fruit. See plate XV. fig. 2. and the article GOMPHRENA.

The flowers of the amaranthoides have got the appellation of everlasting; because, if gathered in full perfection, and kept in a dry place, they will retain their beauty many years.

AMARYLLIS, in botany, a genus of the *hexandria-monogynia* class of plants, the corolla whereof consists of six lanceolated petals; the fruit is an oval or nearly oval capsule, formed of three valves, and containing three cells; the seeds are numerous; the inflection of the petals, stamina and pistil, in this genus is very different in the various species.

This genus comprehends the lilio-narcissus of Tournefort and Dellenius, and the Guernsey-lily.

AMASIA, the northern division of lesser Asia, lying on the south shore of the Euxine sea.

Amasia is also the name of the capital city of the above province, situated in 36° east longitude and 42° north latitude; about seventy miles south of the Euxine sea.

AMATORII *musculi*, in anatomy, those muscles of the eyes that draw them sideways, and assist in the look called ogling. The *amatorii musculi* are otherwise called the *obliquus superior*, or *trochlearis*, and the *obliquus inferior*. See the articles OBLIQUUS and TROCHLEARIS.

AMAUROSIS, ἀμαύρωσις, among physicians, a distemper of the eye, otherwise called *gutta serena.* See GUTTA *serena.*

AMAZON, in a general sense, denotes a bold daring woman, whose breasts have been cut off, to render her more fit for fighting.

AMAZONS, in a more limited sense, were an antient nation of women, inhabiting that part of lesser Asia now called Amasia. See the article AMASIA.

The Amazons are said to have killed all their male children, and to have cut off the right breasts of their females, to fit them for martial exercises. The existence, however, of such a nation is controverted by many judicious authors, and defended by others, particularly Mr. Petit, who has published a dissertation on the subject, wherein are several curious inquiries concerning their arms, dress, *&c.* We also read of scythian Amazons, of german Amazons, of lybian Amazons, and Amazons of America, living on the banks of the great river which bears their name, who are represented as governed by a queen, no men being permitted to live among them; only, at a certain season, those of the neighbouring nations are suffered to visit them, for the sake of procreation. The Amazons of

Lybia are famous for their wars with another female nation, called Gorgons. See the article GORGONS.

On medals, the buſt of the Amazons is ordinarily repreſented armed with a little battle-ax, called by the Romans *biceps*, or *ſecuris*, which they carried on their ſhoulder, with a ſmall buckler in form of a half moon, diſtinguiſhed by the name of *pelta*, upon their left arm.

AMAZON, in geography, a great river of ſouth America, which riſing in Peru, near the equator, runs eaſtward a courſe of more than three thouſand miles; and, like other rivers between the tropics, annually overflows its banks, at which ſeaſon it is about one hundred and fifty miles broad, where it falls into the Atlantic ocean.

AMAZONIAN, in a general ſenſe, denotes ſomething belonging to the Amazons. See the article AMAZON.

AMAZONIAN, *amazonius*, among antient phyſicians, an epithet given to a troch, which is prepared of the ſeeds of ſmallage and aniſe, the tops of wormwood, myrrh, pepper, opium, caſtor, and cinnamon. It is generally called the Amazon's troch, and is preſcribed for pains of the ſtomach, and bilious vomitings.

AMBAGES, an idle circumlocution, or vain connecting together of words and ſayings, remote from the true purpoſe of the ſpeaker. See CIRCUMLOCUTION.

AMBAMARJAM, or AMBARA, the capital city of Abyſſinia, or higher Ethiopia, ſituated on the ſide of a lake, out of which the river Nile iſſues; in 35° eaſt longitude, and 13° ſouth latitude.

AMBARVALIA, in antiquity, a ceremony among the Romans, when, in order to procure from the gods an happy harveſt, they conducted the victims thrice round the corn-fields in proceſſion, before ſacrificing them.

Ambarvalia were either of a private or public nature: the private were performed by the maſter of a family, and the public by the prieſts who officiated at the ſolemnity, called *fratres arvales*.

The prayer preferred on this occaſion, the formula of which we have in Cato, de Re Ruſt. cap. cxlii. was called *carmen ambarvale*.

At theſe feaſts they ſacrificed to Ceres a ſow, a ſheep, and a bull or heifer, whence they take the name of *ſuovetaurilia*.

The method of celebrating them was, to lead a victim round the fields, while the peaſants accompanied it, and one of their number, crowned with oak, hymned forth the praiſes of Ceres, in verſes compoſed on purpoſe.

This feſtival was celebrated twice a year, at the end of January, according to ſome, or in April, according to others; and for the ſecond time, in the month of July: but we have nothing certain as to the particular day.

AMBASSADOR, the ſame with embaſſador. See the article EMBASSADOR.

AMBE, among ſurgeons, an inſtrument for reducing diſlocated bones, conſiſting of a horizontal leaver, moved by a hinge, upon a vertical ſtandard, or foot.

This is the ambe of Hippocrates, which being found inconvenient, new improvements of it have been made. See the article *Luxation of the* HUMERUS.

AMBE, among anatomiſts, a term uſed for the ſuperficial jutting out of a bone. See the article BONE.

AMBER, *ſuccinum*, or *electrum*, in natural hiſtory, a pellucid and very hard inflammable ſubſtance, of one uniform ſtructure, of a bituminous taſte, of a very fragrant ſmell when rubbed, and highly endowed with the property which from it is called electricity.

Origin and nature of AMBER. Naturaliſts have been extremely in the dark about the origin of amber: ſome have maintained it an animal ſubſtance, others take it for a reſinous juice oozing from poplars and firs, frequent on the coaſts of Pruſſia, where it is found in great abundance. But the generality of authors contend for its being a bitumen, which trickling into the ſea from ſome ſubterraneous ſources, and then mixing with the vitriolic ſalts which abound in thoſe parts, becomes congealed and fixed; the reſult of which congelation is amber. However, as good amber is found in digging at a great diſtance from the ſea, it is moſt probable that it is wholly of mineral origin, and is a bitumen, once liquid, of the *naphtha* or *petroleum* kind, hardened into its preſent ſtate by a mineral acid, of the nature of ſpirit of ſulphur, or oil of vitriol; more eſpecially as theſe ſubſtances abound in the earth, and an artificial mixture of them produce a body very much like native amber, and affording all its principles on a chemical analyſis.

The natural colour of amber is a fine pale yellow, but it is often made white, ſometimes black, and in both caſes is rendered opaque by the admixture of extraneous

neous bodies. Sometimes it is tinged with metalline particles, and remains pellucid; but the moſt frequent variation from the yellow, is into a duſky brown.

Properties, preparations, and uſes of AMBER. Amber is hard, dry, tranſparent, toughiſh though brittle ſubſtance, of a ſtyptic taſte, and, when warm, of a peculiar fragrant tartiſh ſmell. It makes no effervеſcence with acids; and when rubbed ſo as to heat, it will attract ſtraws, bits of paper, or any other light ſubſtance, and even metals in thin pieces, as leaf-braſs and the like. It is one of the lighteſt foſſils we know, is ſoluble in ſpirit of wine, in the eſſential oils of plants, and likewiſe, though with much difficulty, in ſome of the expreſſed oils, as that of linſeed. On a chemical analyſis, it yields at firſt a ſubacid water, and afterwards a yellow fetid oil, and a volatile ſalt; the remainder in the retort being a black, light, and friable matter, reſembling in colour the *bitumen judaicum*. The preparations of amber in uſe are, 1. Salt of amber, *ſal ſuccini*. 2. The oil of amber, *oleum ſuccini*. 3. Tincture of amber, *tinctura ſuccini*. The ſalt and oil of amber are obtained by the ſame proceſs: the ſalt is a true acid, and the only one that is obtained in a ſolid ſaline form; the oils greatly reſemble the native *petrolea* or *naphthæ*, the ſubſtances from which amber was formed. The ſalt is diaphoretic, and diuretic; is eſteemed in convulſions, head-achs, and all nervous and hyſteric complaints. The oil, by rectification, becomes a good antihyſteric and emmenagogue, being very ſubtile and penetrating: externally, it is of uſe in reſtoring contracted paralytic limbs. Tincture of amber is procured by digeſtion in ſpirit of wine, with a ſand-heat; and has all the virtues of amber in the ſubſtance.

The mechanical uſes of amber are ſeen in toys, cabinets, utenſils, and the better ſort of varniſhing. In medicine, being reduced to powder, it is given in the *fluor albus*, convulſions, and in all diſorders of the nerves.

AMBER, in geography, a river, which, riſing in the ſouth-weſt part of Bavaria, runs north-eaſt by Lanſperg and Dachan, and falls into the Iſer, a little above Landſhut.

AMBERG, a fortified town of Bavaria, ſituated on the river Ils, about thirty miles north of Ratiſbon, in 12° eaſt longitude, and 49° 25′ north latitude.

AMBERGREASE, or AMBERGRISE, *ambra griſia*, in natural hiſtory, a ſolid, opaque, and fragrant ſubſtance, of a greyiſh or aſh colour, and melting almoſt like wax.

Nature and origin of AMBERGRISE. The opinions concerning the nature and origin of ambergriſe are as various as thoſe relating to amber. Some take it for the excrement of a bird, which being diſſolved by the heat of the ſun, and waſhed off the ſhore by the waves, is ſwallowed by whales, who return it in the condition we find it. Others ſuppoſe it a ſpongy earth, waſhed into the ſea, where it floats, being lighter than the water. Others imagine it a ſort of gum, which exſudating from trees, drops into the ſea, and congeals into ambergriſe. Others contend for its being formed from honey-combs, which fall into the ſea from the rocks where the bees had formed their neſts. And, laſtly, others will have it a ſort of bituminous juice, which ſprings out of the bottom of the ſea, as *naphtha* does out of ſome ſprings, and there thickens and hardens. But the later writers have referred it to the mineral kingdom, to which, in all probability it belongs, being a frothy and light bitumen exſudating out of the earth in a fluid form, and diſtilling into the ſea, where it hardens, and floats on the ſurface, or is thrown upon the ſhore. Ambergriſe is found on the ſea-coaſts, particularly thoſe of Africa, from the Cape of Good-hope to the Red-ſea, in lumps ſometimes very large, in the middle of which we frequently meet with ſtones, ſhells and bones.

Properties, preparations, and uſes of AMBERGRISE. Ambergriſe is a coarſe irregular ſubſtance, of a lax incoherent texture, remarkably light, ſo as not to ſink in water, of a rugged ſurface, very ſoft and fatty, and when moſt pure and perfect is of a light grey colour, a ſtrong ſcent, and being pricked with a hot needle yields an odorous ſmell. It is neither ſoluble, nor makes the leaſt effervеſcence with any acid. It melts very freely over a fire, into a kind of yellow roſin. It is inflammable, and burns with a bright whitiſh flame; and is ſoluble in ſpirit of wine, which, however, does not take up its whole ſubſtance, but always leaves a remainder in form of a black bituminous matter. On analyſis it yields by diſtillation,

tion, firſt a quantity of inſipid phlegm, then an acid ſpirit with a yellowiſh oil, and a ſmall portion of an acid ſalt.

Ambergriſe is much uſed by perfumers, in giving a rich ſweet odour in mixture, eſpecially with muſk. In medicine it is a very high cordial, of great uſe in convulſions, with us; and with the eaſtern nations is in great repute as a provocative to venery, and a prolonger of life. The only preparation of ambergriſe in uſe, is its tincture or eſſence, which has all the virtues of the ambergriſe in ſubſtance.

AMBIDEXTER, a perſon who can uſe both hands with the ſame facility, and for the ſame purpoſes, that the generality of people do their right hands.

Were it not for education, ſome think that all mankind would be ambidexters; and, in fact, we frequently find nurſes obliged to be at a good deal of pains before they can bring children to forego the uſe of their left hands. It is the more pity, that any of the gifts of nature ſhould be thus rendered in a great meaſure uſeleſs, as there are many occaſions in life which require the equal uſe of both hands: ſuch are the operations of bleeding in the left arm, left ancle, *&c.*

AMBIDEXTER, among lawyers, a juror or embraceor, who accepts money of both parties, for giving his verdict; an offence for which he is liable to be impriſoned, forever excluded from a jury, and to pay ten times the ſum he accepted of. See the article DECIES TANTUM.

AMBIEGNÆ OVES, in the heathen ſacrifices, an appellation given to ſuch ewes as, having brought forth twins, were ſacrificed together with their two lambs, one on each ſide. We find them mentioned among other ſacrifices to Juno.

AMBIENT, a term uſed for ſuch bodies, eſpecially fluids, as encompaſs others on all ſides: thus, the air is frequently called an ambient fluid, by reaſon it is diffuſed round all terreſtrial bodies.

AMBIGENAL HYPERBOLA, a name given by ſir Iſaac Newton to one of the triple hyperbolas of the ſecond order, having one of its infinite legs falling within an angle formed by the aſymptotes, and the other falling without. See HYPERBOLA.

AMBIGUITY, in rhetoric and grammar, a defect of language, whereby words are rendered ambiguous. See the next article.

AMBIGUOUS, a term applied to a word or expreſſion which may be taken in different ſenſes. See EQUIVOCAL.

The reſponſes of the antient oracles were always ambiguous. See ORACLE.

AMBILLON, a village of France, in Touraine, where there is a great quarry for mill-ſtones.

AMBIT, *ambitus*, in geometry, is the ſame with what is otherwiſe called the perimeter of a figure. See the article PERIMETER.

AMBITUS, in roman antiquity, the act of ſetting up for ſome magiſtracy, or office, and formally going round the city to ſolicit the intereſt and votes of the people. On theſe occaſions it was not only uſual to ſolicit the intereſt of their friends and others, with whom they were perſonally acquainted; but the candidates, being attended by perſons of an extenſive acquaintance, who ſuggeſted to them the names of the citizens, and thence called *nomenclatores*, or *interpretes*, made their application to all they met. This method of ſuing for offices was deemed allowable, and therefore never prohibited by law; but to reſtrain all undue influence, whether by bribery, or by exhibiting games, ſhews, and the like, many laws were enacted, and ſevere fines impoſed.

AMBLE, in horſemanſhip, a peculiar pace by which a horſe's two legs of the ſame ſide move at the ſame time.

Many methods have been propoſed to bring a young horſe to amble: ſome try it by new ploughed fields; ſome endeavour to bring him to amble from the gallop; and many uſe weights: ſome attempt to procure an amble in hand, ere they mount his back; others, by the help of hind ſhoes, made on purpoſe; others, by folding fine ſoft liſts about the gambrels of the horſe; and others, by the tramel.

All theſe methods, however, are attended with great danger to the horſe; and the beſt way is to try with the hand, by a gentle deliberate racking of the horſe, by helping him in the weak part of the mouth with a ſmooth, big, and full ſnaffle, and correcting him firſt on one ſide, then on the other, with the calves of your legs, and ſometimes with a ſpur.

AMBLETEUSE, a ſmall ſea-port town of Picardy, in France, ſituated about five miles north of Boulogne.

AMBLYGON, *amblygonium*, in geometry, denotes an obtuſe-angled triangle; or a triangle, one of whoſe angles conſiſts of more than ninety degrees.

AMBLY-

AMBLYOPY, ἀμϐλυωπία, among phyſicians, denotes the ſame with *gutta ſerena*. See the article GUTTA *ſerena*.

AMBO, or AMBON, in eccleſiaſtical antiquity, a kind of pulpit, or reading-deſk, where that part of the divine ſervice called the gradual, was performed. See the article GRADUAL.

Beſides the goſpel, which was read at the top of the ambo, and the epiſtle, which was read a ſtep lower, they likewiſe publiſhed from this place the acts of the martyrs, the commemoration of departed ſaints, and the letters of peace and communion, ſent by one church to another: here too converts made a public profeſſion of their faith; and biſhops, their defence, when accuſed: treaties alſo were ſometimes concluded, and the coronations of emperors and kings performed in the ſame place.

AMBOS, a town of Orleanois, in France, ſituated on the river Loire, about ten miles eaſt of Tours, in 1° eaſt longitude, and 47° 25′ north latitude.

AMBOYNA, an iſland of the Eaſt-Indies, lying between the Molucca iſlands and thoſe of Banda, in 126° eaſt longitude, and 3° 40′. ſouth latitude.

In this iſland, which is about ſeventy miles in circumference, the Dutch have a ſtrong fort, garriſoned by ſeven or eight hundred men. What makes it the more remarkable, is the cruel uſage and expulſion of the engliſh factors by the Dutch, in the reign of king James I.

AMBRESBERRY, a market-town in Wiltſhire, about ſix miles north of Saliſbury, and ſituated in 1° 40′ weſt longitude, and 51° 20′ north latitude.

AMBROSE, or *St.* AMBROSE *in the wood*, an order of religious, who uſe the ambroſian office, and wear an image of that ſaint engraven on a little plate: in other reſpects they conform to the rule of the auguſtins. See the articles AMBROSIAN OFFICE, and AUGUSTINS.

AMBROSIA, in heathen antiquity, denotes the ſolid food of the gods, in contradiſtinction from the drink, which was called nectar. See the article NECTAR.

It had the appellation ambroſia, as being ſuppoſed to render thoſe immortal who fed thereon. However, Lucian makes himſelf merry at the expence of this divine food, which, according to him, could not have been ſo excellent as it is repreſented by the poets, ſince the gods are ſaid to have left it for the fat and blood of ſacrifices, which they came to ſuck from the altars like flies.

AMBROSIA is alſo an appellation given to certain medicines, freed from their groſſer parts, and ſaid to be poſſeſſed of extraordinary virtues; in which ſenſe it amounts to much the ſame with quinteſſence. See the article QUINTESSENCE.

AMBROSIA, among antient naturaliſts, a term uſed for the rough or crude wax, ſuppoſed to be the food of bees. See the article WAX.

AMBROSIA, in botany, the name of a diſtinct genus of plants, with floſculous flowers, compoſed of ſeveral ſmall infundibuliform floſcules, divided into five ſegments: theſe, however, are barren; the fruit, which in ſome meaſure reſembles a club, growing on other parts of the plant. See plate XV. fig. 3.

This genus belongs to the *monoecia-pentandria* claſs of Linnæus.

It is of a repelling and aſtringent quality, revives the heart and brain, ſtops fluxes, and is preſcribed both externally and internally.

AMBROSIAN OFFICE, in church-hiſtory, a particular formula of worſhip in the church of Milan, which takes its name from St. Ambroſe, who inſtituted that office in the fourth century. Each church originally had its particular office; and when the pope, in after-times, took upon him to impoſe the roman office upon all the weſtern churches, that of Milan ſheltered itſelf under the name and authority of St. Ambroſe; from which time the ambroſian ritual has prevailed, in contradiſtinction from the roman ritual.

AMBRY, a place in which are depoſited all utenſils neceſſary for houſe-keeping.

In the antient abbies and priories, there was an office under this denomination, wherein were laid up all charities for the poor.

AMBUBAJÆ, in roman antiquity, were immodeſt women, who came from Syria to Rome, where they lived by proſtitution, and by playing on the flute: the word is derived from the ſyriac *abbub*, which ſignifies a flute; although others make it come from *am* and *Baiæ*, becauſe theſe proſtitutes often retired to Baiæ. According to Cruquius, theſe women uſed likewiſe to ſell paint for ornamenting the face, *&c.*

AMBULATION, the ſame with walking. See the article EXERCISE.

AMBULATION, in ſurgery, a term given to the

the ſpreading of a gangrene or mortification.

AMBULATORY, a term antiently pliedt o ſuch courts as were not fixed, but removed ſometimes to one place, ſometimes to another: thus the court of parliament and court of king's bench were formerly ambulatory.

AMBURBIUM, in roman antiquity, a proceſſion made by the Romans round the city and *pomœrium*, in which they led a victim, and afterwards ſacrificed it, in order to avert ſome calamity that threatened the city.

Scaliger, in his notes upon Feſtus, will have the *amburbium* to be the ſame with the *ambarvale*; but Servius, upon the third eclogue makes a diſtinction between them. See the article AMBARVALIA.

AMBURY, or ANBURY, among farriers, denotes a tumour, wart, or ſwelling, which is ſoft to the touch and full of blood. This diſorder of horſes is cured by tying a horſe-hair very hard about its root; and when it has fallen off, which commonly happens in about eight days, ſtrewing ſome powder of verdegris upon the part, to prevent the return of the complaint. If the tumour be ſo low, that nothing can be tied about it, they cut it out with a knife, or elſe burn it off with a ſharp hot iron; and in ſinewy parts, where a hot iron is improper, eat it away with oil of vitriol, or white ſublimate.

AMBUSCADE, or AMBUSH, in the military art, properly denotes a place where ſoldiers may lie concealed, till they find an opportunity to ſurpriſe the enemy.

AMBUSTION, *ambuſtio*, among phyſicians, the ſame with what we commonly call a burn. See the article BURN.

AMBY, a town of the auſtrian Netherlands, in the province of Limburg, ſituated oppoſite to Maeſtricht, on the eaſt ſide of the river Maeſe, in 5° 45′ eaſt long. and 50° 56′ north latitude.

AMELIA, a city of Italy, ſituated on a mountain, about fifty miles north-eaſt of Rome, in 13° 20′ eaſt longitude, and 42° 40′ north latitude.

AMEN, in the ſcripture language, a ſolemn formula, or concluſion to all prayer, ſignifying *ſo be it.*

The term *amen* is hebrew, being derived from the verb *aman, i. e.* to be true, faithful, *&c.* ſo that, ſtrictly ſpeaking, it ſignifies truth; and, uſed adverbially, as is frequently done in the goſpels, truly or verily. Sometimes it is repeated twice together, and then it ſtands for the ſuperlative, as *amen, amen, dico vobis.*

AMENABLE, or AMAINABLE, among lawyers, one that may be led or governed, a term commonly applied to a woman governable by her huſband.

AMEND, or AMENDE, in the french cuſtoms, a pecuniary puniſhment impoſed by a judge for any crime, falſe proſecution, or groundleſs appeal.

Amende honorable, an infamous kind of puniſhment inflicted, in France, upon traitors, parricides, or ſacrilegious perſons, in the following manner: the offender being delivered into the hands of the hangman, his ſhirt is ſtripped off, and a rope put about his neck, and a taper in his hand; then he is led into court, where he muſt beg pardon of God, the king, the court, and his country. Sometimes the puniſhment ends here, but ſometimes it is only a prelude to death, or baniſhment to the gallies.

Amende honorable is a term alſo uſed for making recantation in open court, or in preſence of the perſon injured.

AMENDMENT, in law, the correction of an error committed in a proceſs, which may be amended after judgment, unleſs the error lies in giving judgment, for in that caſe it is not amendable, but the party muſt bring a writ of error.

A bill may be amended on the file at any time before the plea is pleaded; but not afterwards, without motion and leave of the court.

AMENDMENT, in a literary ſenſe, denotes the correction of ſome impropriety in the firſt impreſſions of a book.

AMENDMENT *of a bill*, in parliament, is ſome alteration made in the firſt draught of it. We even read of amendments of amendments. However, it is to be obſerved, that all amendments are made in the houſe, from whence the thing to be amended originally proceeded.

AMENTACEOUS, in botany, an appellation given to ſuch flowers as have an aggregate of ſummits hanging down in form of a rope, or cats-tail, which is alſo called an julus or catkin. See plate XV. fig. 4.

AMENTUM, in roman antiquity, a thong tied about the middle of a javelin or dart, and faſtened to the fore-finger in order to recover the weapon as ſoon as it was diſcharged. The antients made great uſe of the amentum, thinking it helped to inforce the blow.

Amentum alſo denotes a latchet that bound their ſandals.

AMERCE-

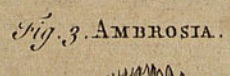
Fig. 1. AMARANTH.



Fig. 2. AMARANTHOIDES.



Fig. 3. AMBROSIA.







T. Jefferys sculp.

AMERCEMENT, or AMERCIAMENT, in law, a pecuniary punishment imposed upon offenders at the mercy of the court.

Amercements differ from fines, the latter being certain punishments growing expressly from some statute, whereas the former are imposed arbitrarily in proportion to the fault.

Besides, fines are assessed by the court, but amercements by the country.

A court of record only can fine, all others can only amerce.

Sheriffs are amerciable for the faults of their officers, and clerks of the peace may be amerced in the King's-bench for gross faults in indictments removed to that court.

A town is subject to amercement for the escape of a murderer in the day-time, and if the town is walled, it is subject to amercement whether the escape happens by day or night.

The statute of Magna Charta ordains, that a freeman is not to be amerced for a small fault, but in proportion to the offence, by his peers and equals.

AMERICA, one of the four grand divisions of the earth, otherwise called the West-Indies, is a vast continent lying between 80° north latitude, and 58° south latitude, and between 35°. and 145°. west longitude, bounded by the Atlantic ocean, which separates it from Europe and Africa on the east, and by the Pacific ocean, usually called the South sea, which divides it from Asia, on the west.

This vast continent is divided into two peninsulas, called North and South America, and separated from each other by the isthmus of Panama.

America, sometimes called the new world, as being unknown to the antients, is possessed at present by the european nations. To Spain belong old and new Mexico, Florida, Terra Firma, Peru, Chili, Patagonia, or Terra Magellanica, Paragua, and the islands Cuba, Hispaniola, Porto-Rico, and Trinidad. The Portuguese are masters of the extensive maritime country of Brazil. The British possess the provinces of Georgia, south and north Carolina, Virginia, Maryland, Pensilvania, the two Jerseys, New York, New England, New Scotland, New Britain, and the islands Jamaica, Barbadoes, St. Christophers, Newfoundland, &c. and lastly, Hudson's-bay, or British Canada. The French claim all that extent of country, lying westward of the british plantations, and are in possession of the islands of Caen, Martinico, Guadaloupe, &c. The Dutch are possessed of Surinam, and of some islands on the north coast of Terra Firma, as Curassow, Aruba, Bonaire, &c. And to Denmark belongs the island of St. Thomas. See the articles MEXICO, FLORIDA, &c.

Such, at least, were the partitions of this vast continent, as they stood before the breaking out of the present war, in the year 1756; during which France lost almost all her american settlements.

AMERSHAM, a market-town of Buckinghamshire, about twenty-seven miles westward of London.

It is situated in 40′ west longitude, and 51°. 40′. north latitude, and sends two members to parliament.

AMETHYST, *amethystus*, in the history of precious stones, a gem of a purple colour, which seems composed of a strong blue and a deep red: and according as either of those prevails, affording different tinges of purple, sometimes approaching to violet, and sometimes even fading to a pale rose-colour.

Though the amethyst be generally of a purple-colour, it is nevertheless sometimes found naturally colourless, and may at any time be easily made so by putting it into the fire; in which pellucid, or colourless state, it so well imitates the diamond, that its want of hardness seems the only way of distinguishing it.

Some derive the name amethyst from its colour, which resembles wine mixed with water: whilst others, with more probability, think it got its name from its supposed virtue of preventing drunkenness; an opinion, which, however imaginary, prevailed to that degree among the antients, that it was usual for great drinkers to wear it about their necks.

Be this as it will, the amethyst is scarce inferior to any of the gems in the beauty of its colour; and in its purest state is of the same hardness, and at least of equal value with the ruby and sapphire. It is found of various sizes, from the bigness of a small vetch, to an inch and an half in diameter, and often to much more than that in length. Its shape is extremely various, sometimes roundish, sometimes oblong, and at others flatted, at least on one side; but its most common appearance is in a crystalliform figure, consisting of a thick column, composed of four planes, and terminated by a flat and short pyramid, of the same number of

of fides; or elfe, of a thinner and longer hexangular column; and fometimes of a long pyramid without any column. It makes the gayeft figure in the laft of thefe ftates, but is hardeft and moft valuable in the roundifh and pebble-like form.

The amethyft is found in the Eaft and Weft-Indies, and in feveral parts of Europe; the oriental ones, at leaft fome of the finer fpecimens, being fo hard and bright, as to equal any of the coloured gems in value. However, by far the greater number of amethyfts fall infinitely fhort of thefe, as all the european ones, and not a few of thofe brought from the Eaft and Weft-Indies, are very little harder than common cryftal.

Counterfeit or factitious Amethyst, a kind of glafs made of cryftal-frit, manganefe, and zaffer; which, in colour, greatly refembles the natural amethyft.

The method of giving this colour to glafs is as follows. Take cryftal-frit, made with the moft perfect and fine tarfo; then prepare a mixture of manganefe in powder, one pound; zaffer prepared, one ounce and half; mix thefe powders well together, and add to every pound of the frit, an ounce of this powder. Let it be put into the pots with the frit, not into the already made metal. When the whole has ftood long enough in fufion to be perfectly pure, work it into veffels, and they will refemble the colour of the amethyft.

Amethyst, in heraldry, a term for the purple colour in the coat of a nobleman, in ufe with thofe who blazon by precious ftones inftead of metals and colours. This in a gentleman's efcutcheon is called Purpure, and in thofe of fovereign princes Mercury.

AMHAR, or Amhara, a kingdom of Abyffinia in Africa, fubject to the great Negus. It is bounded on the north by the kingdom of Bajemder; on the eaft, by that of Angote; on the fouth, by the kingdom of Walaca; and on the weft, by the Nile, which feparates it from the kingdom of Gojam. This country is remarkable for the mountains Ghefghen and Ambacel, where the children and near relations of the kings of Abyffinia were formerly confined, upon which account it is regarded as the native country of the modern emperors.

AMIA, in ichthyology, the name of a fifh nearly of the fhape of the common mackrel, only that it is much larger; being ufually three feet in length. It is a fpecies of fcomber, with the laft ray of the hinder dorfal fin very long. See the article Scomber.

AMIABLE, or Amicable *numbers*, fuch as are mutually equal to the fum of one another's aliquot parts, as the numbers 284 and 220.

Van Schouten was the firft who gave this name to fuch numbers, of which it is eafily apprehended, there are but very few at leaft to be fet down and manageable by us. For 284 and 220 are the two leaft, and the two next greater are 18416 and 17296.

AMIANTHUS, in natural hiftory, vulgarly called earth-lax, a fibrofe, flexile, and elaftic mineral fubftance, compofed of fhort and abrupt filaments; being a genus of that order of foffils called afbefti. See the article Asbestus.

There are feveral fpecies of amianthi; that of a greyifh green colour, with fhort, abrupt, and interwoven filaments, is the fame with the plumofe alum of the fhops. See the article *Plumofe* Alum.

The properties of the amianthus are very wonderful. They will neither give fire with fteel, nor ferment with aqua fortis; and if thrown into the fire, will endure the moft extreme heat without the leaft injury to their texture. In medicine, they are ufed as an ingredient in pfilothra, and are faid to refift poifons, and to cure the itch.

AMICABLE, in a general fenfe, denotes any thing done in a friendly manner, or to promote peace.

Amicable benches, *fcamna amicabilia*, in roman antiquity, were, according to Pitifcus, lower and lefs honourable feats allotted for the *judices pedanei*, or inferior judges, who upon being admitted of the emperor's council, were dignified by him with the title *amici*.

AMICTUS, in roman antiquity, was any upper garment worn over the tunica.

Amictus, among ecclefiaftical writers, the uppermoft garment antiently worn by the clergy; the other five being the alba, fingulum, ftola, manipulus, and planeta.

The amictus was a linen garment, of a fquare figure, covering the head, neck, and fhoulders, and buckled, or clafped, before the breaft. It is ftill worn by the religious abroad.

AMICULUM, in roman antiquity, a woman's upper garment, which differed from the palla, as we learn from Livy; but in what

what that difference consisted, we are at a loss to know, unless that it was shorter than the palla.

The amiculum was worn both by matrons and courtezans.

The amiculum worn by men resembled the chlamys or paludamentum.

AMIENS, the capital city of Picardy in France, situated on the river Somme, in east longitude 2° 30′. and north latitude 49° 50′.

Amiens is a beautiful town, and a bishop's see, under the archbishop of Rheims. Here too is an university of considerable note.

AMITTERE LEGEM TERRÆ, among lawyers, a phrase importing the loss of liberty of swearing in any court. The punishment of a champion overcome or yielding in battle, of jurors found guilty in a writ of attaint, and of a person outlawed.

AMMANNIA, in botany, the name of a genus of plants, belonging to the *tetrandria monogynia* class of Linnæus; the flower of which is composed of four oval patent petals, growing within the cup; and its fruit is a roundish capsule covered by the cup, and containing four cells: the seeds are numerous and small.

AMMI, BISHOP'S WEED, in botany, a distinct genus of umbelliferous plants, belonging to the *pentandria digynia* class of Linnæus; the flower of which is rosaceous, and composed of heart-like petals; and its fruit is a small roundish and striated capsule, containing two striated seeds, convex on one side, and plane on the other. See plate XV. fig. 5.

The seeds of this plant are reputed aromatic, aperitive, carminative, and alexipharmic; being one of the lesser hot seeds of the shops, and recommended in hysteric complaints, as well as to expel wind, and to promote the menses.

AMMODYTES, the SAND-EEL, or GRIG, in ichthyology, a genus of malacopterygeous fishes. The characters of this genus of fishes are as follow: the body is oblong and slender, and is of a rounded but somewhat depressed figure; there are no belly-fins, the head is of a depressed form, and the branchiostege membrane on each side contains seven bones, but they are in great part covered by the opercula of the gills. The head of the ammodytes is small, much narrower than the body, of a compressed figure, and acute at the forepart; the lower jaw projects a great way beyond the upper, and the opening at the mouth is large; the nostrils have each a double aperture, and stand in the middle between the eyes and the extremity of the rostrum; the eyes are large, and the iris of a silvery colour; the scales are extremely small on the back, and are of a greyish colour, and the belly is of a silvery-white. See plate XVI. fig. 1.

It has got the appellation ammodytes, from its diving into, or burying itself under the sand.

AMMON, or HAMMON, in antiquity, an epithet given to Jupiter in Libya, where was a celebrated temple of that deity, under the denomination of Jupiter Ammon. There has been a great dispute about the origin of this name. Some derive it from the greek ἄμμος, *sand*, in regard the temple was situate in the burning sands of Libya, others borrow it from the egyptian *anam*, a *ram*, as having been first discovered by that animal; others will have *ammon* to signify the *sun*, and the horns wherewith he is represented, the sunbeams.

AMMONIAC, or *Gum*-AMMONIAC, in the materia medica, a gum, or more properly a gum-resin, extracted from a feru-laceous plant growing in some parts of Africa and Asia. It is brought to us in drops or granules, and sometimes in large masses, composed of a number of these granules connected together by other matter of the same kind.

The best ammoniac is always freest from dross, of a yellowish colour without and white within, of a bitterish taste and castor smell.

Ammoniac is in great esteem with modern physicians. It attenuates and deterges, and therefore is prescribed in all distempers arising from grumes and viscidities, which prevent a due motion of the nervous fluid. It is found of vast service in asthmas, and infarctions of the lungs, in all nervous cases, and particularly those termed hysterical. Sometimes it is given in pills, but more usually in an emulsion of hysop-water, which is called lac ammoniacum. It also enters into the composition of many topics as as a suppurative, and is sometimes used externally in plaisters.

Sal AMMONIAC, a kind of chemical salt, more usually called sal-armoniac. See the article ARMONIAC.

AMMONITÆ, in natural history, the same with the cornua ammonis, or snake-stones. See CORNU AMMONIS.

AMMOSCHISTUM, in natural hiftory, the name of a genus of foffils, confifting of flate ftone, compofed only of fparry and cryftalline particles, or of talcy, fparry and cryftalline particles. See SLATE.

AMMUNITION, a general term for all warlike provifions, but more efpecially powder, ball, &c.

Ammunition, arms, utenfils of war, gunpowder, imported without licence from his majefty, are, by the laws of England, forfeited and triple the value.

And again, fuch licence obtained, except for furnifhing his majefty's public ftores, is to be void, and the offender to incur a præmunire, and be difabled to hold any office from the crown.

AMMUNITION BREAD, SHOES, &c. fuch as are ferved out to the foldiers of an army or garrifon.

Whoever is curious to know the quantity of ammunition neceffary for the fiege of a place, may confult the chevalier de St. Julien's treatife *de la forge de Vulcain*; and the quantity requifite for the defence of a place, will be found in Suirey de St. Remy's *memoires d'artillerie*.

AMNESTY, αμνηστια, in matters of policy, an act by which two parties at variance, promife to pardon and bury in oblivion all that is paft.

Amnefty is either general and unlimited, or particular and reftrained, though moft commonly univerfal, without condition or exceptions; fuch as that which paffed in Germany at the peace of Ofnaburg in the year 1648.

Amnefty, in a more limited fenfe, denotes a pardon granted by a prince to his rebellious fubjects, ufually with fome exceptions: fuch was that granted by Charles II. at his reftoration.

AMNIOS, in anatomy, a thin pellucid membrane, which furrounds the fœtus.

The amnios is an interior membrane contiguous to the exterior one called the chorion, having no veffels, or at the utmoft very few; and contains a pellucid glutinous liquor which flows out upon the breaking of this membrane at the time of delivery.

With regard to the liquor inclofed in the amnios, the famous Harvey thought it abfolutely nutritious both from its tafte and confiftence, but later anatomifts have difproved that doctrine, and have fhewn that the ufe of that liquor is to prevent the weight of the child, and the inequalities of its body from bearing hard upon the neck of the uterus; to defend the child from receiving hurt when it moves, and alfo to prevent it from adhering to the uterus.

AMOEBÆUM, αμοιβαιον, in antient poetry, a kind of poem, reprefenting a difpute between two perfons, who are made to anfwer each other alternately: fuch are the third and feventh of Virgil's eclogues.

AMOMUM, in the materia medica, the name of a fpecies of fium, an aromatic plant, the feed whereof is a powerful diuretic, and aperient; and, confequently, efteemed good in nephritic cafes, obftructions of the vifcera, and fuppreffion of the menfes. See the article SIUM.

As to the amomum of the antients, it is a congeries of round membranaceous fruits the external coats of which are ftriated like thofe of the cardamoms, but not tough like them. They have no pedicle, but are affixed by their bafis to a wooden ftem of a fibrous texture, aromatic fmell, and acrid tafte. The flowers are like thofe of leucovium, and the leaves like thofe of briony.

The beft amomum is that which is white or reddifh, of a diffufed fubftance, with pods full of feed, ponderous and fragrant.

AMOMUM, in botany, a genus of the *monandria monogynia* clafs of plants, the corolla whereof is monopetalous, confifting of a fhort tube, and a limb divided into three oblong fegments, the middle fegment is larger than the reft, and the finus oppofite to it more open; the nectarium is monophyllous, and inferted into the large finus juft mentioned; it fcarce at all appears above the fegments of the corolla; the fruit is coriaceous, of an oval figure, but fomewhat three cornered, it is compofed of three valves forming as many cells; the feeds are numerous and fmall. The amomum comprehends the plant called zinziber by authors; for the ufes and characters whereof, fee the articles GINGER and ZINZIBER.

AMORBACH, a fmall city of Franconia in Germany, belonging to the elector of Mentz.

AMORE, in ichthyology, the name of a genus of brafilian fifhes, of which there are three fpecies. 1. The amore-guacu. 2. amore-tinga. 3. amore-pixuma.

The amore-guacu is about half a foot long, with a pretty thick head, and large gills. It has feven fins, an oblong tail rounded at the extremity, and is covered with very large fcales. This fifh is altogether

gether of a darkiſh colour, except in the belly, where it is a little more white.

The amore-tinga is of the ſame figure with the former, but leſs. Its ſcales are white and ſtained with black ſpots.

The amore pixuma is as large as the tamoata, and reſembles that fiſh very much. Its colour is very dark, except in the belly.

AMORGO, an iſland of the archipelago, about ninety miles north of Candia, lying in eaſt longitude 26° 15′. and north latitude 37°.

AMORPHA, in botany, a genus of plants, belonging to the *diadelphia decandria* claſs of Linnæus; the flower of which conſiſts of one petal vertically ovated, hollow and erect; and the fruit is a lunulated pod, of a compreſſed form, and covered with tubercles, in which are contained two ſeeds, of an oblong kidney-like ſhape.

AMORTIZATION, in law, the alienation of lands or tenements to a corporation or fraternity, and their ſucceſſors. See the article MORTMAIN.

Amortization alſo denotes the privilege of taking lands, *&c.* in mortmain, for which purpoſe the king's conſent muſt firſt be obtained. This licence is granted upon paying to the king and the ſuperior a certain ſum to indemnify them for ſeveral incidental dues, which in the common way would have fallen to them, but by the amortization are cut off.

AMOS, or *the prophecy of* AMOS, a canonical book of the Old Teſtament. This prophet boldly remonſtrates againſt the crying ſins that prevailed among the Iſraelites, ſuch as idolatry, oppreſſion, wantonneſs and obſtinacy, and reproves the people of Judah for their carnal ſecurity, ſenſuality and injuſtice. He terrifies them both with frequent threatnings, and pronounces that their ſins will at laſt end in the ruin of Judah and Iſrael, which he illuſtrates by the viſions of a plumb line and a baſket of ſummer-fruits. He begins with denunciations of judgment and deſtruction againſt the enemies of the Jews, and concludes with promiſes of reſtoring the tabernacle of David, and erecting the kingdom of Chriſt.

AMOVING, the act of expelling a perſon from his place or office. There is a ſtatute for amoving papiſts from London and Weſtminſter, and ten miles round them.

AMOUR, a large river of Aſia, which, ariſing in Siberia, runs eaſtward through Chineſe Tartary, and falls into the bay of Corea in the indian ocean.

AMOY, an iſland on the ſouth-weſt coaſt of China, ſituated in eaſt longitude 118°. north latitude 25°.

AMPELIS, in zoology, a ſpecies of paſſares, of a cheſnut brown colour with a ferruginous breaſt. This bird has a head of a pale cheſnut colour on the forepart, but of a deeper brown behind, ſhort but well feathered wings, a tail moderately long, and ſlender legs of a bluiſh black colour. It is a native of Bohemia.

AMPELITES, CANNEL-COAL, in natural hiſtory, a ſolid, dry, opake foſſil, very hard, not fuſible, but eaſily inflammable and burning with a bright, vivid, white flame. It is found in many parts of England, but particularly in a quarry near Alençon in France: it is of a very good black, though not near ſo deep and ſhining as jet, and in the thinneſt pieces, has not the leaſt tranſparence.

It makes no effervеſcence with aqua fortis. It dies the hair black: being applied to the belly, it is reputed good for killing of worms. It is capable likewiſe of a fine poliſh, and for that reaſon is turned into a vaſt number of toys, as ſnuff-boxes, and the like.

Ampelites is by ſome called vine-earth, becauſe it kills the worms that creep upon the vines.

AMPHIARTHROSIS, ἀμφιαρθρωσις, in anatomy, a term under which ſome moderns comprehend all thoſe junctures of the bones, which have a manifeſt motion, and which differ from the ſeveral articulations of the diarthroſis either in regard to their figure or motion. See the article DIARTHROSIS.

AMPHIBIOUS, among zoologiſts, an appellation given to a claſs of animals, which live part of their time in the water, and part of it on land.

The diſtinguiſhing characters of this claſs, according to Linnæus, are theſe: they have either naked or ſcaly bodies, and ſharp-pointed fore-teeth, but without any grinders, or *dentes molares*: to which add, that they have no radiated fins.

To this claſs belong the tortoiſe, the frog-kind, and the lizard and ſerpent-kinds. See the article TORTOISE, *&c.*

Anatomiſts obſerve, that the lungs of amphibious animals are ſo formed, that though reſpiration be neceſſary to them, yet it is not requiſite to be performed at

short intervals. Hence it is, that they can remain a long time under water without being suffocated, and many of them, even a considerable part of their lives.

AMPHIBIOUS, in botany, a term sometimes applied to the plants, more usually called aquatic. See AQUATIC.

AMPHIBLESTROIDES, in anatomy, a name by which some call the retina of the eye. See RETINA.

AMPHIBOLIA. See the next article.

AMPHIBOLOGY, ἀμφιβολογία, in grammar and rhetoric, a term used to denote a phrase susceptible of two different interpretations.

Amphibology arises from the order of the phrase, rather than from the ambiguous meaning of a word.

Vossius rather chuses to call this defect of language, amphibolia.

AMPHIBRACHYS, in antient poetry, the name of a foot consisting of three syllables, whereof that in the middle is long, and the other two short: such is the word ăbīrĕ.

AMPHICTYONS, ἀμφικτύονες, in grecian antiquity, an assembly composed of deputies from the different states of Greece, and resembling, in some measure, the diet of the german empire. See DIET.

Some suppose the word Αμφικτύονες to be formed of ἀμφι, about, and κτίειν, or κτίζειν, in regard the inhabitants of the country round about met here in council. Others, with more probability, from Amphictyon, son of Deucalion, whom they suppose to have been the founder of this assembly; though others will have Acrisius, king of the Argives, to have been the first who gave a form and laws to this body.

The amphictyons met regularly at Delphi, twice a year, viz. in spring and autumn; and decided all differences between any of the grecian states, their determinations being held sacred and inviolable.

Authors give different accounts of the number of the Amphictyons, as well as of the states who were entitled to have their representatives in this council; according to Strabo, Harpocration, and Suidas, they were twelve from their first institution sent by the following cities, and states; the Ionians, Dorians, Perrhæbians, Bœotians, Magnesians, Achæans, Phthians, Melians, Dolopians, Ænianians, Delphians, and Phocæans. Æschines only reckons eleven, instead of the Achæans, Ænianians, Delphians, and Dolopians, he only gives these three, the Thessalians, Ætæans, and Locrians; and Pausanias no more than ten.

In the time of Philip of Macedon, the Phocæans were excluded the alliance, for having plundered the Delphian temple, and the Lacedæmonians were admitted in their place; but the Phocæans sixty years after, having behaved gallantly against Brennus and his Gauls, were restored to their seat in the Amphictyonic council. Under Augustus, the city Nicopolis was admitted into the body; and to make room for it, the Magnesians, Melians, Phthians, and Ænianians, who till then had distinct voices, were ordered to be numbered with the Thessalians, and to have only one common representative. Strabo speaks as if this council were extinct in the times of Augustus and Tiberius; but Pausanias who lived many years after, under Antoninus Pius, assures us it remained intire in his time, and that the number of Amphictyons was then thirty.

The members were of two kinds; each city sending two deputies, under different denominations, one called Ἱερομνήμων, whose business seems to have been more immediately to inspect what related to sacrifices and ceremonies of religion; the other Πυλαγόρας, charged with hearing and deciding of causes and differences between private persons. Both had an equal right to deliberate and vote, in all that related to the common interests of Greece. The Hieromnemon was elected by lot; the Pylagoras, by plurality of voices.

AMPHIDROMIA, ἀμφιδρόμια, in antiquity, constituted part of the lustration of infants. See LUSTRATION.

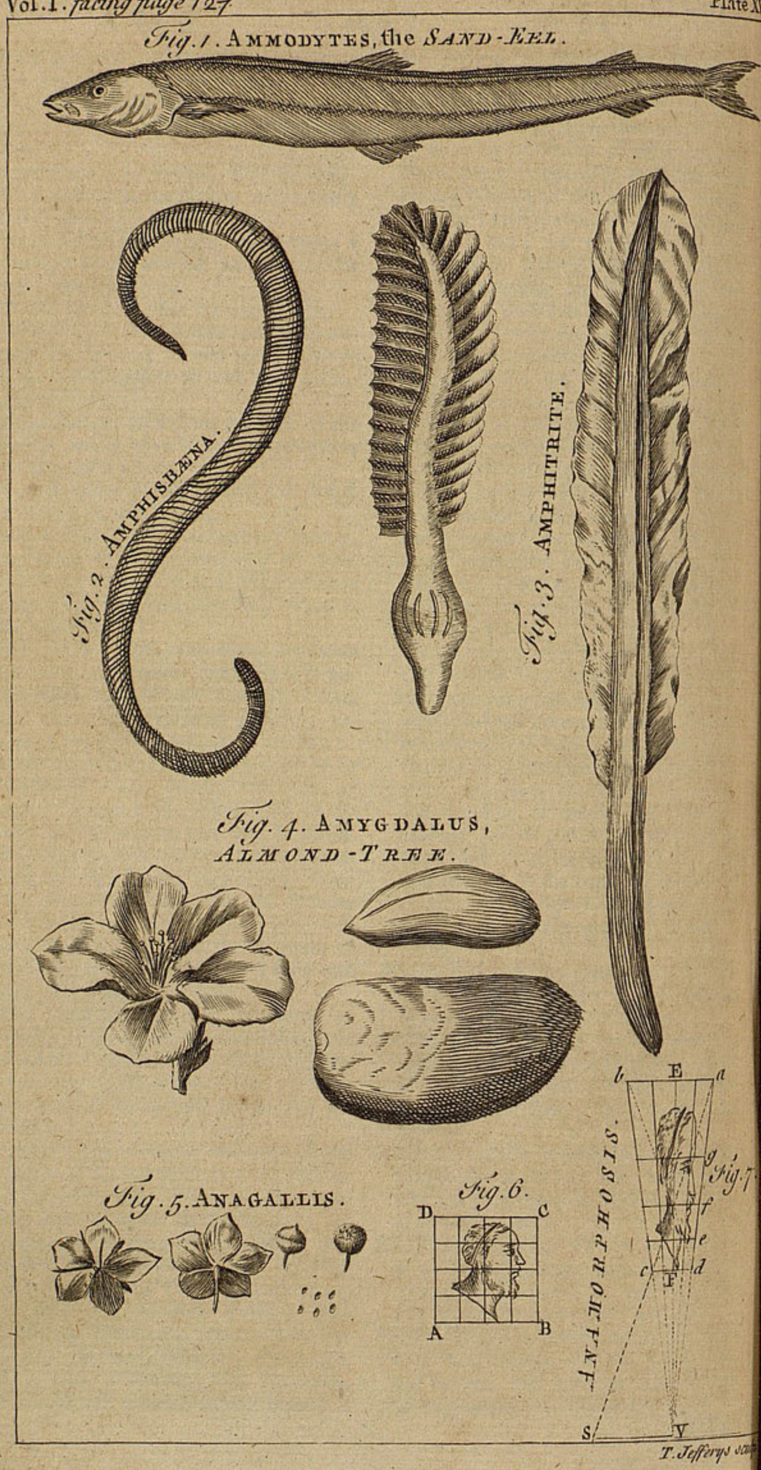
AMPHIMACER, in ancient poetry, a foot consisting of three syllables, whereof the first and last are long, and that in the middle short: such is the word cāstĭtās.

AMPHIPOLES, in antiquity, the principal magistrates of the city of Syracuse, in Sicily, called archons at Athens. See the article ARCHON.

AMPHIPOLIS, or STRYMON, a town of european Turkey, once the capital of Macedonia, situated in east longitude 40° 5'. and north latitude 41° 30'.

AMPHIPPII, in grecian antiquity, soldiers, who, in war, used two horses without saddles, and were dextrous enough to leap from one to the other.

Authors


Fig. 1. AMMODYTES, the SAND-EEL.
Fig. 2. AMPHISBÆNA.
Fig. 3. AMPHITRITE.
Fig. 4. AMYGDALUS, ALMOND-TREE.
Fig. 5. ANAGALLIS.
Fig. 6.
D
C
A
B
ANAMORPHOSIS.
Fig. 7.
b
E
a
g
f
e
c
F
d
S
V
T. Jefferys sculp.

Authors are not agreed, whether these horses were yoked together or not.

AMPHIPRORÆ, in the naval affairs of the antients, vessels with a prow at each end.

They were used chiefly in rapid rivers, and narrow channels, where it was not easy to tack about.

AMPHIPROSTYLE, in the architecture of the antients, a temple which had four columns in the front, and as many in the face behind.

AMPHISBÆNA, in zoology, a kind of serpent so called, because it moves with either end forward. It is a native of warm climates. See plate XVI. fig. 2.

The body of the amphisbæna, has a number of circular annuli, surrounding it from the head to the extremity of the tail; so that it seems composed of a number of narrow and somewhat rounded rings applied close to one another, and having deep furrows between them.

Of the amphisbæna there are several species: whereof the flesh, liver, and heart, are proper to excite sweat, and reputed an antidote against poison.

AMPHISCII, among geographers, a name applied to the people who inhabit the torrid zone.

Amphiscii, as the word imports, have their shadows one part of the year towards the north, and at the other towards the south, according to the sun's place in the ecliptic. They are also called Ascii. See the article ASCII.

AMPHITHEATRE, in antiquity, a spacious edifice, built either round or oval, with a number of rising seats, upon which the people used to sit and behold the combats of gladiators, of wild beasts, and other sports.

Amphitheatres were at first only of wood, and it was not till the reign of Augustus, that Statilius Taurus built one for the first time of stone. The lowest part was of an oval figure, and called arena, because, for the conveniency of the combatants, it was usually strewed with sand, and round the arena were vaults stiled *caveæ*, in which were confined the wild beasts appointed for the shews.

Above the caveæ was erected a large circular peristyle, *podium*, adorned with columns. This was the place of the emperors, senators, and other persons of distinction.

The rows of benches were above the podium. Their figure was circular, and they were entered by avenues, at the end of which were gates, called vomitoriæ. The most perfect remains we now have of antient amphitheatres, are that of Vespasian, called the coliseum, that at Verona in Italy, and that at Nismes in Languedoc. See COLISEUM.

AMPHITHEATRE, in gardening, a temple of view, erected on a rising ground, of a semicircular figure.

These amphitheatres are formed of ever-greens, observing always to plant the shortest growing trees in the front, and the tallest trees behind.

They are also made of slopes on the sides of hills, and covered with turf, being formerly esteemed great ornaments in gardens, but they are now generally excluded; as the natural slope of such hills is to persons of true taste, far more beautiful than the stiff angular slopes of these amphitheatres.

AMPHITRITE, in zoology, the name of a small naked sea insect, of an oblong figure, with only one tentaculum, resembling a piece of thread.

There are several species of this animal, some of which are marginated, and variously furrowed, so as to bear some resemblance to a quill. See plate XVI. fig. 3. N°. 1 and 2.

AMPHORA, in antiquity, a liquid measure, in use among the Greeks and Romans. See the article MEASURE.

The roman amphora contained forty-eight sextaries, and was equal to about seven gallons one pint, english wine-measure; and the grecian, or attic amphora, contained one third more.

Amphora, was also a dry measure, likewise in use among the Romans, and contained three bushels.

AMPHORA, among the Venetians, the largest measure used for liquids. It contains four bigorzas, the bigorza being four quarts, the quart four sachies, and each sachie four leras; but by wholesale, the amphora is fourteen quarts, and the bigorza three quarts and a half.

AMPHORA, in astronomy, a name sometimes used for one of the twelve signs of the zodiac, more usually called aquarius. See the article AQUARIUS.

AMPHOTIDES, in antiquity, a kind of armour or covering for the ears, worn by the antient pugiles, to prevent their adversaries from laying hold of this part.

AMPLIATION, in roman antiquity, was the deferring to pass sentence in certain causes. This the judge did, by pronouncing the word *amplius*; or by writing the

the letters N. L. for *non liquet*; thereby ſignifying, that as the cauſe was not clear, it would be neceſſary to bring farther evidence.

AMPLIFICATION, in rhetoric. See the article EXAGGERATION.

AMPLITUDE, in aſtronomy, an arch of the horizon intercepted between the eaſt or weſt point thereof, and the center of the ſun, ſtar, or planet, at its riſing and ſetting, and ſo is either north or ſouth.

If the amplitude be taken from the riſing ſun, or ſtar, it is called its riſing or ortive amplitude; if when it ſets, its ſetting or occaſive amplitude. The ſun's amplitude, either riſing or ſetting, is found by the globes, by bringing the ſun's place to the horizon, either on the eaſt or weſt ſide, and the degrees from the eaſt point, either north or ſouth, are the amplitude required. To find the amplitude trigonometrically, ſay, as the coſine of the latitude : radius : : ſine of the preſent declination : ſine of the amplitude. This problem is uſeful in navigation, to find the variation of the compaſs.

Magnetical AMPLITUDE, the different riſing or ſetting of the ſun, from the eaſt or weſt points of the compaſs. It is found by obſerving the ſun, at his riſing and ſetting, by an amplitude-compaſs.

AMPLITUDE *of the range of a projectile*, the horizontal line, ſubtending the path in which the projectile moved. See the article PROJECTILE.

AMPULLA, in antiquity, a round big-bellied veſſel, which the antients uſed in their baths, to contain oil for anointing their bodies.

Ampulla was alſo a cup made of glaſs, and ſometimes of leather, for drinking out of at table.

AMPURIAS, a town of Spain, capital of the diſtrict of Ampouzdan in Catalonia, and ſituated in eaſt longitude 2° 50′ and north latitude 42° 15′.

AMPUTATION, in ſurgery, the cutting off a limb, or other part of the body, with an inſtrument.

Tho' the amputation of limbs is as much as poſſible to be avoided, yet in many caſes it is abſolutely neceſſary to ſave the patient's life. Such as, 1. When the muſcles of the part, or limb, are ſphacelated. 2. When the muſcles and bones are violently contuſed and ſhattered. 3. When there is an incurable caries, or ſpina ventoſa. 4. When a large artery is either totally divided, or ſo wounded, that the hæmorrhage is not to be ſtopped without the danger of mortification.

When it is required on account of either of theſe cauſes to amputate a limb, the arm for example; two things muſt be obſerved: 1. The place where the amputation is to be made, which ſhould be one or two fingers breadth above the injured part, and never in it. 2. The preparation of the ſeveral neceſſary inſtruments. The whole apparatus being provided, the patient, aſſiſtants, and ſurgeon being diſpoſed in proper poſtures, and the tourniquet applied to the arm, the operation is begun by an annular inciſion made through the ſkin with a ſcalpel, upon which the ſkin is drawn upwards as much as poſſible. Then the fleſh is divided down to the bones with the crooked ſcalpel, the ligaments between the ulna and radius are cut, and the perioſteum are ſeparated from the bones. The laſt ſtep is to fix the ſaw ſo as that it may work upon the bones of the cubitus at the ſame time. It muſt alſo be moved gently at the beginning, but when well entered, the motion may be faſter. And thus in one or two minutes, the amputation may be completed. See the article SAW.

The buſineſs, however, of the ſurgeon is not at an end here. He is to make a ſtrict compreſſure and deligation upon the larger arteries, to ſuppreſs the hæmorrhage. This is done, by ſecuring the larger arteries by ligature with needle and thread, and the ſmaller by ſquare compreſſes of linen, and ſometimes, as among the ancients, by the actual cautery. The fleſh and ends of the bones, likewiſe, are to be inveſted with doſſils of dry lint, over which a piece of the fungus called crepitus lupi, with a bolſter of tow, are to be fixed and retained on the ſtump by a wet bladder or plaiſter; ſo that the ſkin may be drawn down to cover the wound, and procure a ſpeedy cicatriſation. See the article WOUND.

AMSDORFIANS, in church-hiſtory, a ſect of proteſtants, in the XVIth century, who took their name from Amſdorf, their leader.

They maintained, that good works were not only unprofitable, but even oppoſite and pernicious to ſalvation.

AMSTERDAM, a large and beautiful city of Holland, ſituated on the river Amſtel, and an arm of the ſea, called Wye, a little eaſtward of the Zuyder-ſea, in

in 4° 30′ east longitude, and 52° 20′ north latitude.

It is computed to be half as big as London; and, in point of trade, equal to any town of the known world; there being people in it of almost every nation and religion in Europe, who apply themselves, with the utmost diligence, to heap up wealth, not with a view to enjoy it, but to have the pleasure of dying rich.

AMSTERDAM is also the name of a town of the Curacoes, in America: likewise the name of three islands, one of which lies in the indian ocean, between New Holland and Madagascar; the second between Peru and the islands of Solomon; and the third in the chinese sea, between Japan and the island of Formosa.

AMULET, a charm, or preservative against mischief, witchcraft, or diseases.

Amulets were made of stone, metal, simples, animals, and, in a word, of every thing which fancy or caprice suggested; and sometimes they consisted of words, characters, and sentences, ranged in a particular order, and engraved upon wood, *&c.* and worn about the neck, or some other part of the body. See the article ABRACADABRA.

At other times they were neither written nor engraved, but prepared with many superstitious ceremonies, great regard being usually paid to the influence of the stars. The Arabians have given to this species of amulet the name of talisman. See the article TALISMANS.

All nations have been fond of amulets; the Jews were extreamly superstitious in the use of them, to drive away diseases: and the Misna forbids them, unless received from an approved man, who had cured at least three persons before, by the same means.

Even amongst the christians of the early times, amulets were made of the wood of the cross, or ribbands with a text of scripture written in them, as preservatives against diseases; and therefore the council of Laodicea forbids ecclesiastics to make such amulets, and orders all such as wore them to be cast out of the church.

AMURCA, among antient physicians, a medicine prepared by boiling the recrements or fæces of oil olives to the consistence of honey; of some use as an astringent and drier.

Amurca is also an appellation used by some writers for the fluid found in the *renes succenturiati*. See the article SUCCENTURIATI.

AMY, in law, the next friend or relation to be intrusted for an infant. See the article PROCHEIN.

Alien amy signifies a foreigner here, subject to some foreign prince, or power, in friendship with us.

AMYGDALA, in botany, the fruit of the amygdalus, or almond tree. See the article ALMOND-TREE.

AMYGDALÆ, *almonds*, in anatomy. See the article ALMONDS.

AMYGDALUS, the almond tree, in botany, a genus of trees, for the description and uses of which, see the article ALMOND-TREE, and plate XVI. fig. 4.

AMYLON, or AMYLUM, a term given to starch. See the article STARCH.

It is used in the materia medica amongst astringents and agglutinants.

Amylum, in a general sense, is used by Castellus to signify any sort of chymical fæculæ.

AMYTHAONIS *emplastrum*, among antient physicians, a plaster for convulsions, and distortions of the joints. It was made of gum ammoniac, wax, bdellium, each eight drams; of turpentine, illyrian orrice, galbanum, each twenty drams.

AMZEL, in ornithology, the english name of two species of merulæ, or blackbirds. See the article MERULÆ.

AN JOUR *and* WASTE, in law, signifies a forfeiture of lands for a year and a day, to the king, by persons committing petit treason and felony, and afterwards the land falls to the lord.

ANA, among physicians, denotes an equal quantity of the ingredients which immediately precede it in prescriptions: it is written by abbreviation ā or ā ā; thus, ℞ *thur. myrrh. alum.* ā ā, i ℈: that is, take frankincense, myrrh, and alum, each a scruple.

ANA, in matters of literature, a latin termination added to the titles of several books in other languages.

They are collections of the conversation and memorable sayings of men of wit and learning; the Scaligeriana was the first book that appeared with a title in *ana*, and was afterwards followed by the Perroniana, Thuana, Naudæana, Menagiana, and even by Arlequiniana, in ridicule of all books in *ana*. The Menagiana are accounted the best.

ANA, among occult philosophers, a term used to denote the human mind; from whence some will have *anasapta*, a dæmon invoked by sick persons, to be derived.

ANABAPTISTS, in church-hiſtory, a ſect of proteſtants, which ſprung up in Germany, in 1521, immediately after the riſe of lutheraniſm. At firſt, they preached up an entire freedom from all ſubjection to the civil as well as eccleſiaſtical power: but the tenet from whence they take their name, and which they ſtill maintain, is their re-baptiſing all new converts to their ſect, and condemning infant-baptiſm.

Great troubles were occaſioned in Germany by this ſect; but of all places, where they prevailed, none ſuffered ſo much by them as the town of Munſter. The anabaptiſts, however, of Holland and Friezland diſapproved the ſeditious behaviour of their brethren of Munſter: and, at preſent, though this ſect ſtill ſubſiſts as well in Britain as abroad, yet they no longer pretend to be divinely inſpired, they no longer oppoſe magiſtrates, nor preach up a community of goods, &c.

The anabaptiſts ſupport their principal doctrine upon thoſe words of our ſaviour, *He that believeth, and is baptized, ſhall be ſaved.* Now, as adults, or grown perſons, are alone capable of believing, they argue, that none but adults are fit to be baptiſed. This doctrine is oppoſed, by alledging the contrary practice of the primitive church, as well as from ſcripture, which tells us, that children are capable of the kingdom of heaven, and at the ſame time aſſures us, that, *except a man be baptized, he cannot enter into the kingdom of God.*

As for the anabaptiſts in England, they differ in very little from the other proteſtant diſſenters, except their rejecting infant-baptiſm; as appears from their confeſſion of faith, publiſhed in 1689.

ANABASII, in antiquity, expeditious couriers, who carried meſſages of importance, and travelled either on horſeback, or in wheel-carriages. See COURIER. They are mentioned by St. Jerome, in his third book againſt Ruffinus.

ANABASIS, among phyſicians, denotes either the increaſe or augmentation of a fever in general, or of any particular paroxyſm.

ANABASIS, in the linnæan ſyſtem of botany, a genus of the pentandria digynia claſs of plants, the calyx of which is a perianthium, conſiſting of three roundiſh concave, obtuſe, patent, leaves; the corolla is compoſed of five oval, equal, permanent petals, leſs than the cup: the fruit is a roundiſh berry, containing a ſingle ſeed.

ANABIBAZON, in aſtronomy, a name given to the northern node of the moon or dragon's head. See DRAGON'S HEAD.

ANABLEPS, in ichthyology, a genus of malacopterygious fiſhes with ſix bones in the branchioſtege membrane, and only two ſmall fins in the extremity of the back. Of this genus there are only one known ſpecies.

ANABOLEUS, αναβολευς, in antiquity, an appellation given to grooms of the ſtable, or equerries, who aſſiſted their maſters in mounting their horſes.

As the antients had no ſtirrups, or inſtruments that are now in uſe for mounting a horſe, they either jumped upon his back, or were aided in mounting by anabolei.

ANABROSIS, αναβρωσις, among antient phyſicians, a corroſion of the ſolid parts, by acid humours. It is alſo called *diabroſis.*

ANACALYPTERIA, ανακαλυπτηρια, in antiquity, feſtivals among the Greeks on the day that the bride was permitted to lay aſide her veil, and appear in public. The word is derived from a verb which ſignifies to uncover.

ANACAMPTIC, a name applied by the antients to that part of optics which treats of reflexion, being the ſame with what is now called catoptrics. See CATOPTRICS. It is alſo uſed with regard to echoes, which are ſounds produced by reflexion.

ANACARDINE CONFECTION, *anacardina confectio,* among phyſicians, a preparation of *anacardiums,* or molucca-beans, with mirobalans, pepper, caſtoreum, refined ſugar, laurel-berries, cyprus, coſtus, and rocket; eſteemed excellent in all cold diſorders; alſo for ſtrengthening the memory and underſtanding.

ANACARDIUM, the *acajou,* or *caſhew-nut-tree,* in botany, a genus of the decandria monogynia claſs of plants, the calyx of which is a deciduous perianthium, compoſed of one leaf, divided into five parts, erect and acuminated: the corolla conſiſts of a ſingle petal; the tube is very ſhort; the limb is divided into five lanceolated reflex ſegments longer than the cup: there is no pericarpium; the ſeed is a large nut, of a kidney like ſhape, placed at the extremity of the receptacle, which is very large, fleſhy, and of a turbinated oval figure. See the article ACAJOU.

ANACATHARSIS, ἀνακάθαρσις, among physicians, denotes a discharge of noxious humours by spitting; in which sense it stands contradistinguished from *catharsis*, or a purgation by stool. Hence,

ANACATHARTICS, in pharmacy, an appellation given to all such medicines as promote an anacatharsis; though some likewise comprehend emetics, errhines, masticatories, &c. under this term. See the article EMETIC, &c.

ANACEPHALÆOSIS, ἀνακεφαλαίωσις, in rhetoric, the same with recapitulation, See the article RECAPITULATION.

ANACHORET, ἀναχωρητὴς, in church-history, denotes a hermit, or solitary monk, who retires from the society of mankind into some desart, with a view to avoid the temptations of the world, and to be more at leisure for meditation and prayer.

Such were Paul, Anthony, and Hilarion, the first founders of a monastic life, in Egypt and Palestine.

Anachorets, among the Greeks, consist principally of monks, who retire to caves or cells, with the leave of the abbot, and an allowance from the monastery; or who weary of the fatigues of the monastery, purchase a spot of ground, to which they retreat, never appearing again in the monastery, unless on solemn occasions. They are sometimes called ascetæ. See the article ASCETICS.

In the west, anchorets are extolled, by Peter Damian, as the most perfect sort of monks: they often amassed great riches, by the presents that were brought to them, out of regard to their piety; and all their wealth was bequeathed, at their death, to the monastery they had belonged to, in consequence of the permission to retire and live a solitary life.

ANACHRONISM, in matters of literature, an error with respect to chronology, whereby an event is placed earlier than it really happened, in which sense it stands opposite to parachronism.

ANACLASTICS, *anaclastica*, that part of optics which considers the refraction of light. See the article REFRACTION.

ANACLASTIC *glasses*, *Vitra Anaclastica*, a kind of sonorous phials, or glasses, chiefly made in Germany, which have the property of being flexible; and emitting a vehement noise by the human breath. They are also called vexing glasses, by the Germans, on account of the fright and disturbance they occasion by their resilition.

The anaclastic glasses are a low kind of phials with flat bellies, resembling inverted funnels, whose bottoms are very thin, scarce surpassing the thickness of an onion peel: this bottom is not quite flat, but a little convex. But upon applying the mouth to the orifice, and gently inspiring, or as it were sucking out the air, the bottom gives way with a horrible crack, and of convex, becomes concave. On the contrary, upon expiring or breathing gently into the orifice of the same glass, the bottom with no less noise bounds back to its former place, and becomes gibbous as before.

The anaclastic glasses first taken notice of, were in the castle of Goldbach; where one of the academists *Naturæ curiosorum*, having seen and made experiments on them, published a piece express on their history and phænomena.

They are all made of a fine white glass. It is to be observed in these, 1. That if the bottom be concave at the time of inspiration, it will burst; and the like will happen if it be convex at the time of expiration. 2. A strong breath will have the same effect even under the contrary circumstances.

ANACLETERIA, in antiquity, a solemn festival celebrated by the antients, when their kings or princes came of age, and assumed the reins of government. It is so called, because proclamation was made of this event to the people, who went to salute their prince, and congratulate him upon his new dignity.

ANACLINOPALE, among the antient athletæ, a kind of wrestling, performed on the ground; the combatants voluntarily throwing themselves down for that purpose.

ANACREONTIC VERSE, in antient poetry, a kind of verse, so called from its being much used by the poet Anacreon. It consists of three feet and a half, usually spondees and iambuses, and sometimes anapests; such is that of Horace,

Lydia dic per omnes.

ANACYCLUS, in botany, a genus of plants of the *syngenesia polygamia superflua* of Linnæus, being the same with the santolinoides of other authors. See the article SANTOLINOIDES.

ANADEMA, ἀνάδεμα, in antiquity, denotes the fillet which the kings of Persia wore round their heads.

Anadema denotes alſo a kind of ornament which women wore on their heads like a garland.

ANADIPLOSIS, ἀναδίπλωσις, in rhetoric and poetry, a repetition of the laſt word of a line, or clauſe of a ſentence, in the beginning of the next: thus,

Pierides, vos hæc facietis maxima Gallo: Gallo, cujus amor, &c.

Et matutinis accredula vocibus inſtat, Vocibus inſtat, & aſſiduas jacit ore querelas.

ANADIPLOSIS, among phyſicians, the renewal of a cold fit, in a ſemitertian fever, before the fit is entirely ended.

ANADROMOUS, among ichthyologiſts, a name given to all fiſh which, at ſtated ſeaſons, go from the freſh waters into the ſea, and afterwards return back again. Such are the ſalmon, and ſome other truttaceous fiſhes.

Anadromous fiſhes frequent rivers chiefly to depoſite their ſpawn; which done, they return again to the ſea; the young fry likewiſe make for the ſea, where having acquired their full growth, they return into the freſh water to lay their ſpawn.

ANAGALLIS, in botany, a genus of plants, belonging to the *pentandria-monogynia* claſs of Linnæus; the flower of which is monopetalous, multifid, and orbicular; the fruit is a globoſe capſule, containing only one cell, and dividing horizontally into two hemiſpheres; the ſeeds are numerous and angular.

Anagallis is very deterſive, of a heating and drawing quality, whence it extracts ſplinters out of the fleſh, has the virtue of drying without mordacity; and for that reaſon is eſteemed proper for conglutinating wounds, and helping putrid ulcers. See plate XVI. fig. 5.

ANAGLYPHICE, or ANAGLYPTICE, denotes the art of emboſſing. See the article EMBOSSSING.

ANAGNI, a town of Italy, in the Campagna di Roma, ſituated about thirty-two miles eaſt of Rome, in 13° 45′ eaſt lon. and 42° north latitude.

ANAGNOSTA, or ANAGNOSTES, in antiquity, a kind of literary ſervant, retained in the families of perſons of diſtinction, whoſe chief buſineſs was to read to them during meals, or at any other time when they were at leiſure.

The anagnoſtæ were taught to read with clearneſs, propriety, and good accent. They were in great credit under the emperor Claudius.

ANAGOGICAL, ſignifies myſterious, tranſporting, and is uſed to expreſs whatever elevates the mind, not only to the knowledge of divine things, but of divine things in the next life, ſuch as they paſs, and will paſs eternally between God and his ſaints. This word is ſeldom uſed, but with regard to the different ſenſes of ſcripture. The anagogical ſenſe is, when the ſacred text is explained with a regard to eternal life, the point which chriſtians ſhould have in view; for example, the reſt of the ſabbath, in the anagogical ſenſe, ſignifies the repoſe of everlaſting happineſs.

ANAGOGY, or ANAGOGE, ἀναγωγή, among eccleſiaſtical writers, the elevation of the mind to things celeſtial and eternal.

It is alſo an interpretation of a paſſage of ſcripture, by which the mind is raiſed to the conſideration of theſe things. See the preceding article.

ANAGRAM, ἀνάγραμμα, in matters of literature, a tranſpoſition of the letters of ſome name, whereby a new word is formed, either to the advantage or diſadvantage of the perſon or thing to which the name belongs; thus, from Galenus is formed Angelus: from James, Simea; and ſo of others.

Thoſe who adhere ſtrictly to the definition of an anagram, take no other liberty than that of omitting or retaining the letter H, at pleaſure; whereas others make no ſcruple to uſe E for Æ, V for W, S for Z, and C for K: and *vice verſa*.

Beſides anagrams formed as above, we meet with another kind in antient writers, made by dividing a ſingle word into ſeveral; thus, *ſus tinea mus* are formed out of the word *ſuſtineamus*.

Anagrams are ſometimes alſo made out of ſeveral words; ſuch is that on the queſtion put by Pilate to our ſaviour, *Quid eſt veritas?* whereof we have this admirable anagram, *viz. eſt vir qui adeſt.*

ANAGRAMMATIST, a perſon who compoſes or deals much in anagrams. See the preceding article.

ANAGROS, in commerce, a meaſure for grain uſed in ſome cities of Spain, particularly at Seville.

Forty-ſix anagros make about 10½ quarters of London.

ANAGYRIS, BEAN-TREFOIL, in botany, a genus of plants with papilionaceous flowers, the vexillum of which is ſhorter than any of the other petals, and its fruit an oblong pod, containing kidney-like ſeeds: to this it is to be added, that three leaves ſtand on every petal. It belongs to

to the *diadelphia decandria* clafs of Linnæus.

According to Lemery, the leaves of *anagyris* are laxative, and its feeds emetic.

ANALECTA, or ANALECTES, in antiquity, a fervant whofe employment it was to gather up the off-falls of tables.

ANALECTA, analects, in a literary fenfe, is ufed to denote a collection of fmall pieces, as effays, remarks, &c.

ANALEMMA, ἀνάλημμα, in geometry, a projection of the fphere on the plane of the meridian, orthographically made by ftrait lines and ellipfes, the eye being fuppofed at an infinite diftance, and in the eaft or weft points of the horizon. See *orthographic projection of* MAPS *on the plane of the meridian.*

ANALEMMA denotes likewife an inftrument of brafs or wood, upon which this kind of projection is drawn, with an horizon and curfor fitted to it, wherein the folftitial colure, and all circles parallel to it, will be concentric circles; all circles oblique to the eye, will be ellipfes; and all circles whofe planes pafs through the eye, will be right lines.

The ufe of this inftrument is to fhew the common aftronomical problems, which it will do, though not very exactly, unlefs it be very large.

This inftrument is very antient, Ptolemy having written upon it in a peculiar treatife. As to the method of conftructing it, fee Agulonius's Optics, Taquet's Optics, Witty in his Treatife of the Sphere, and Dechales de Aftrolabiis.

ANALEPSIS, among phyficians, denotes the augmentation or nutrition of an emaciated body. Hence,

ANALEPTICS, in pharmacy, are reftorative medicines, proper to nourifh the body when much weakened. See the article RESTORATIVE.

ANALOGICAL, in a general fenfe, denotes fomething belonging to, or partaking of the nature of analogy. Hence, *Analogical fyllogyfm* is one whofe force chiefly depends on the analogy between the two premifes. See SYLLOGISM.

ANALOGISM, among logicians, the arguing from the caufe to the effect.

ANALOGISM, among phyficians. See the article ANALOGY.

ANALOGISTA, among civilians, denotes a tutor, who is not obliged to give an account of his conduct.

ANALOGY, ἀναλογία, in matters of literature, a certain relation and agreement between two or more things; which in other refpects are entirely different; thus the foot of a mountain bears an analogy to the foot of an animal, although they are two very different things.

There is likewife an analogy between beings that have fome conformity or refemblance to one another: for example, between animals and plants, and between metals and vegetables; but the analogy is ftill ftronger between two different fpecies of certain animals.

Analogy enters much into all our reafoning, and ferves to explain and illuftrate but not to demonftrate. Neverthelefs, a great part of our philofophy hath no other foundation than analogy, the utility of which confifts in fuperfeding all neceffity of examining minutely every particular body; for it fuffices us to know, that every thing is governed by general and immutable laws, in order to regulate our conduct with regard to all fimilar bodies, as we may reafonably believe that they are all endowed with the fame properties: thus, we never doubt that the fruit of the fame tree has the fame tafte. It is true, reafoning by analogy may fometimes induce to error: thus, the analogy between the conftellation called leo, and the animal of that name, has given room to fome aftrologers to imagine that children born under that conftellation were infpired with a martial fpirit.

ANALOGY, among geometricians, denotes a fimilitude of ratios. See RATIO.

ANALOGY, in medicine, is the fimilitude obfervable among feveral difeafes, in virtue of which they are treated nearly in the fame manner: thus, by analogy, bleeding is prefcribed in colds, the pleurify, peripneumony, &c. as being all of an inflammatory nature. See the article INFLAMMATORY DISEASES.

ANALOGY, among grammarians, is the correfpondence which a word or phrafe bears to the genius and received forms of a language.

ANALOGY *of doctrine,* among critics, is the explaining the paffage of an author, in a manner confiftent with the fyftem which he is known to have generally followed. And, nearly in the fame fenfe, is

ANALOGY *of faith,* among divines, the connection which fubfifts between the feveral articles of the chriftian faith, in contradiftinction from reafon on the one hand, and from authority and tradition on the other. Hence, by analogy of faith, all obfcure paffages of fcripture are to be interpreted, agreeably to the general

ſyſtem clearly demonſtrable from holy writ.

Analogy, in rhetoric, a figure of ſpeech otherwiſe called compariſon. See the article Comparison.

ANALYSIS, in a general ſenſe, is the reſolution of ſomething compounded, into its conſtituent parts. Hence,

Analysis, among logicians, is a method of tracing things backward to their ſource, and of reſolving knowledge into its original principles.

It is alſo called the method of reſolution, and ſtands oppoſed to the ſynthetic method, or method of compoſition. See the article Method.

The art of this method conſiſts chiefly in combining our perceptions, and claſſing them together with addreſs; and in contriving a proper expreſſion of our thoughts, ſo as to repreſent their ſeveral diviſions, claſſes, and relations. This is clearly ſeen in the manner of computing by figures in arithmetic, but more particularly in the ſymbols applied in reſolving algebraical problems.

Analysis, among mathematicians, the art of diſcovering the truth or falſhood of a propoſition, or its poſſibility and impoſſibility. This is done by ſuppoſing the propoſition, ſuch as it is, true; and examining what follows from thence, until we arrive at ſome evident truth, or ſome impoſſibility, of which the firſt propoſition is a neceſſary conſequence; and from thence eſtabliſh the truth or impoſſibility of that propoſition.

The analyſis of the antient geometricians conſiſted in the application of the propoſitions of Euclid, Apollonius, &c. till they arrived, proceeding ſtep by ſtep, at the truth required. That of the moderns, though not ſo elegant, muſt, however, be allowed more ready and general. By this laſt, geometrical demonſtrations are wonderfully abridged, a number of truths are frequently expreſſed by a ſingle line, and whole ſciences may ſometimes be learned in a few minutes, which otherwiſe would be ſcarcely attained in many years.

Analyſis is divided, with regard to its object, into that of finites and infinites.

Analyſis of finite quantities, that which is called ſpecious arithmetic. See the article Arithmetic.

Analyſis of infinites, the ſame with fluxions. See the article Fluxions.

Analysis, in chemiſtry, the reduction of a mixed body into its principles. This is the chief object of chemiſtry, and is principally effected by means of fire. The antient chemiſts admitted only three principles or elements, ſalt, ſulphur, and mercury: to which the moderns have added two more, water and earth: into theſe all bodies are reſolvable by a chemical analyſis, though no operation, no human art, can exhibit them pure and elementary.

On this then, as well as on other accounts, it is far from being clear, that a chemical analyſis gives the true firſt elements of things; for it appears that there are corpuſcles, which, when alone, are either ſo hard as to be incapable of being divided, or changing their figures; or ſo minute, as to eſcape the action of ſuch bodies as might otherwiſe divide them.

Analysis is alſo uſed to ſignify the anatomical diſſection of an animal. See the article Anatomy.

Analysis, among grammarians, is the explaining the etymology, conſtruction, and other properties of words. See the article Etymology, &c.

Analysis, in rhetoric, is the ſtripping a diſcourſe of all its gorgeous dreſs of tropes and figures; or, ſhewing what uſe the orator has made of them, to embelliſh and ſet off every thing to the beſt advantage.

Analysis *of powers*, is the operation of reſolving them into their roots, otherwiſe called evolution. See the articles Evolution, Power, and Root.

Analysis is alſo uſed for a brief, but methodical illuſtration of the principles of a ſcience; in which ſenſe it is nearly ſynonymous with what we otherwiſe call a ſynopſis.

Analysis likewiſe denotes a table of the principal heads of a continued diſcourſe, diſpoſed in their natural order.

ANALYST, a perſon who makes uſe of the analytical method of reſolving problems. See the article Analysis.

ANALYTIC, or Analytical, in a general ſenſe, denotes ſomething belonging to analyſis. See the article Analysis.

Analytics is more particularly uſed for the mathematical and logical analyſes above explained.

ANAMNESTICS, among phyſicians, ſigns by which the preſent ſtate of the body is diſcovered, in contradiſtinction from prognoſtics. See Prognostic.


Fig. 1. Ananas, the Pine-Apple.
Fig. 2. Anapodophyllum.
Fig. 3. The Anchovy.
T. Jefferys sculp.

Anamnestics, according to Blancard, also denote remedies which restore the memory: such are all spirituous things.

ANAMORPHOSIS, αναμοςφωσις, in perspective and painting, a monstrous projection, or representation of an image on a plane or curve surface, which, beheld at a proper distance, shall appear regular and in proportion.

To delineate an anamorphosis upon a plane: 1. Draw the square A B C D, (plate XVI. fig. 6.) of a bigness at pleasure, and subdivide it into a number of little squares. 2. In this square, called the craticular prototype, let the image to be represented deformed, be drawn. 3. Then draw the line *a b* (ibid. fig. 7) equal to A B, and divide it into the same number of equal parts as the side of the prototype A B. 4. Erect the perpendicular E V, in the middle of *a b*, so much the longer as the deformity of the image is to be greater. 5. Draw V S perpendicular to E V, so much the shorter as you would have the image appear more deformed. 6. From each point of division draw strait lines to V, and join the points *a* and S, by the right line *a* S. 7. Through the points *d e f g* draw right lines parallel to *a b*, then will *a b c d* be the space in which the monstrous projection is to be delineated: this space is called the craticular ectype. Lastly, in every areola, or small trapezium, of the space *a b c d*, draw what appears delineated in the correspondent areola of the square A B C D; and thus you will obtain a deformed image, which will appear in just proportion to an eye distant from it the length F V, and raised above its height V S.

An image may be deformed mechanically, if you place it, having little holes made here and there in it with a needle, against a candle, and observe where the rays going through these holes, fall on a plane or curve surface; for they will give the corresponding points of the image to be deformed.

ANANAS, the PINE-APPLE, in botany, Tournefort's name for a genus of plants; the flower of which consists of only one infundibuliform petal, divided into three segments at the edge; and its fruit is of a turbinated form, containing a number of kidney-like seeds. See plate XVII. fig. 1.

The *ananas* belongs to the *hexandria-monogynia* class of Linnæus, who makes it a species of Bromelia. See BROMELIA.

No fruit comes up to it, either for its delicious flavour or beautiful colour. It is propagated with us in stoves, and should be gathered and eaten as soon as ripe, which is known by its strong and agreeable smell, as well as softness.

The juice of the *ananas* makes an excellent wine, very proper to be given in a nausea, and to provoke urine: Lemery adds, that on the spot where it grows naturally, they make a confection of it, which is brought here whole, and is good to restore a weak constitution.

ANAPÆST, *anapæstus*, in antient poetry, a foot consisting of two short syllables and one long: such is the word scŏpŭlōs.

It is just the reverse of the dactyl. See the article DACTYL.

ANAPÆSTIC VERSES, those consisting wholly or chiefly of anapæsts.

ANAPHORA, in rhetoric, the repetition of the same word or words in the beginning of a sentence or verse: thus Virgil.

Pan etiam Arcadiâ mecum si judice certet,
Pan etiam Arcadiâ dicat se judice victum.

ANAPHRODISIA, αναφροδισια, in antient physic, denotes impotence, with regard to venereal commerce.

ANAPLASIS, among antient physicians, the replacing of a fractured bone in the same situation it obtained before it was broken.

Anaplasis also signifies a renutrition of the extenuated flesh.

ANAPLEROSIS, in a general sense, is the same with repletion. See the article REPLETION.

Anaplerosis, among surgeons, expresses the restoring deficiences; and in this sense is the same with *prosthesis*. See the article PROSTHESIS.

ANAPLEROTICS, in pharmacy, such medicines as promote the growth of flesh in wounds and ulcers.

Of this kind are several gums and balsams, as sarcocolla and the vulnerary balsam.

Anaplerotics are also called incarnatives. See the article INCARNATIVES.

ANAPODOPHYLLUM, in botany, the name by which Tournefort calls the *podophyllum* of Linnæus. See plate XVII. fig. 2. and the article PODOPHYLLUM.

ANARCHY, in matters of polity, such a confusion in the state, that no supreme authority is lodged either in the prince or other rulers, and consequently the people live at large without subordination, or any respect for the laws.

All

All governments, in general, tend to one extreme or other, *viz.* despotism or anarchy.

No body can be fond of anarchy but those whose affairs are desperate; because private persons can never be sure of their lives and fortunes when the country is in a state of anarchy.

ANARRHICHAS, in the artedian system of ichthyology, the name of a genus of malacopterygious fishes, called by other writers *lupus-marinus*, the sea-wolf. See the article LUPUS.

ANARTHRA, a class of naked insects, distinguished from all others by having neither wings nor limbs.

To this class belong all kinds of worms and leeches.

ANAS, in zoology, a genus of birds of the order of the *anseres*, according to Linnæus, the beak of which is convex, with an obtuse point, and the whole verge furnished with transverse lamellose teeth; the tongue is obtuse and ciliated. Under this genus are comprehended the *platea*, *cygnus*, *anser*, *eider*, *bernicla*, *penelope*, *boschas*, *clangula*, *glaucium*, *querquedula*, *fuligula*, &c.

ANASARCA, in medicine, a species of dropsy, wherein the skin appears puffed up and swelled, and yields to the impression of the fingers, like dough.

The causes of this disease are, 1. A diminution of the *vis vitæ*. 2. A viscidity in the blood and lymph, by which means the extremities of the vessels being obstructed, and the adipose cellules filled up, a greater quantity of lymph is collected in the body than can be received by the veins and lymphatic ducts, or expelled by the pores and other absorbent vessels. If the humour be too viscous, it is called *leucophlegmatia*. See the article LEUCOPHLEGMATIA.

As to the remedies for this distemper, see the article DROPSY.

ANASTASIS, among antient physicians, denotes a rising up to go to stool. It likewise signifies a migration of humours, when expelled from one place, and obliged to remove to another.

ANASTATICA, the ROSE of JERICHO, in botany, a genus of the tetradynamia siliculosa class of plants, the calyx of which is a deciduous perianthium, consisting of four oval, oblong, concave, erect and deciduous leaves: its flower consists of four roundish petals, disposed in the form of a cross; and its fruit is a short bilocular pod, containing in each cell a single roundish seed.

ANASTOMASIS, or ANASTOMOSIS, in anatomy, the opening of the mouths of vessels, in order to discharge their contained fluids; as in the menses, hæmorrhoids, blood from the nose or lungs, occasioned either by the weakness of the vessel, or the quantity of blood.

ANASTOMASIS likewise denotes the communication of two vessels at their extremities; for example, the inosculation of a vein with a vein, of an artery with an artery, or of an artery with a vein.

ANASTOMATICS, in pharmacy, medicines which have the power of opening the mouths of vessels, and promoting the circulation of the blood.

Such are all deobstruent, cathartic, sudorific, and diuretic medicines.

ANASTROPHE, ἀναστροφή, in rhetoric and grammar, denotes the inversion of the natural order of the words: such is *saxa per & scopulos*, for *per saxa & scopulos*.

ANATHEMA, ἀνάθεμα, among ecclesiastical writers, imports whatever is set apart, separated, or devoted; but is most usually meant to express the cutting off a person from the privileges of a society and communion with the faithful.

The anathema differs from excommunication in the circumstance of being attended with curses and execrations. It was practised in the primitive church against notorious offenders; and the form of that pronounced by Synecius against one Andronicus, is as follows: "Let no church of God be open to Andronicus, but let every sanctuary be shut against him. I admonish both private men and magistrates, neither to receive him under their roof, nor to their table; and priests more especially, that they neither converse with him living, nor attend his funerals when dead."

Several councils also have pronounced anathemas against such as they thought corrupted the purity of the faith, and their decisions have been conceived in the following form: *Si quis dixerit*, &c. *anathema sit*.

There are two kinds of anathemas, the one judiciary, and the other abjuratory. The former can only be denounced by a council, a pope, or a bishop; the latter makes a part of the ceremony of abjuration, the convert being obliged to anathematize the heresy he abjures. See the article ABJURATION.

ANATHEMA, in heathen antiquity, was an offering or prefent made to fome deity, fo called from its being hung up in the temple.

Whenever a perfon left off his employment, it was ufual to dedicate the tools to the patron-deity of fuch a trade. Perfons too, who had efcaped fome imminent danger, as fhipwreck, and the like, or had met with any other remarkable inftance of good fortune, feldom failed to teftify their gratitude by fome prefent of this kind.

ANATHEMATA likewife denote chriftian offerings, otherwife called donations. See the article DONATION.

ANATHEMATIZING, the act of pronouncing an anathema againft fome perfon or other. See ANATHEMA.

ANATOCISM, ἀνατοκισμὸς, in antiquity, an ufurious intereft for the ufe of money. This is when the lender accumulates together the interefts of feveral years, and requires a new intereft to be paid for them, as for the firft principal.

ANATOMICAL, in a general fenfe, denotes fomething belonging to anatomy: Hence we fay anatomical preparations, injections, &c. See PREPARATION, &c. and the next article.

ANATOMY, ἀνατομη, among phyficians, furgeons, &c. the art of diffecting, or taking to pieces, the feveral folid patrs of animal bodies, with a view to difcover their ftructure and ufes.

Anatomy, in refpect of its fubject, is divided into human and comparative.

Human anatomy is that which is employed on the human body, and comparative anatomy that which is employed upon the bodies of other animals, thefe ferving for the more accurate diftinctions of feveral parts, and fupplying the defects of human fubjects.

Anatomy from its various ends, may be faid to be of four kinds; the primary one is an acquaintance with the work of the creator, in the human frame, as an intimate knowledge of the figure of the feveral parts of the human body, their connections, communications, actions, and ufes, is one of the ftrongeft arguments againft atheifm: the fcience, therefore, treated in this light, may be called philofophical or theological anatomy.

Of the fecondary ends, the firft is health, for the prefervation of which, reftoring it when impaired by difeafes, or even preventing their accefs, nothing furely is more neceffary than a true knowledge of the ftructure of that frame which is liable to be injured: in this fenfe anatomy is ftiled medical; and many, indeed, eftablifh this as the firft fpecies of it, and the preferving and reftoring health as its primary object.

Another end of anatomy is determining the caufe of fufpicious deaths, impotency, barrennefs, the true times of pregnancy and delivery, the mortality of wounds, and a multitude of other cafes of great importance to be adjufted in a court of judicature: and in this fenfe the fcience may be called juridical.

But, laftly, a great end of anatomy is the determining the caufe and manner of the death of difeafed perfons, from a fubfequent diffection of the body: this is of the utmoft ufe in the practice of phyfic, to difcover the latent caufes of many difeafes, which, without the affiftance of thefe diffections, the world could never have been truly acquainted with.

Upon the whole, then, it appears that the ufe of anatomy is very great, nor is it confined to the bounds of medicine alone: the philofopher and the magiftrate, the painter and the fculptor, are in their refpective employments, more or lefs qualified, in proportion to the progrefs they have made in this fcience; but the phyfician and furgeon are the people to whom it is moft immediately neceffary; and who, without a perfect knowledge of it, cannot do juftice to the world in their profeffions. What the needle is to the mariner, anatomy is to both thefe; and we may venture to fay, that without its affiftance, they would be rather detrimental than beneficial to mankind.

With regard to the antiquity of anatomy, it feems fcarcely poffible, but that the flaughter of beafts for the ufe of man, cafualties, murders, and the accidents of war, muft have furnifhed mankind with a general knowledge of the ftructure of the parts, in very early ages of the world. But it is not very certain at what period it began to be cultivated as a fcience. This, however, muft have been very early, efpecially if we pay any regard to Manetho, the famous egyptian writer, who, according to Eufebius, relates, that Athotis, an egyptian king, wrote fome treatifes of anatomy. This king, if the egyptian chronology was to be depended upon, lived many ages before Adam. This, however falfe with regard to time, tends to prove the great antiquity of the fcience. However this be, it

it is certain that before, or, at leaſt, in the days of Homer, anatomy was much cultivated, ſince this author appears to have had a competent knowledge of the parts, and to have been well verſed in the renunciation of wounds, ſo as to give an accurate account of their effects in almoſt all parts of the body. But Hippocrates is the firſt author, at leaſt extant, who treated of anatomy ſcientifically. This great writer, conſcious of his noble and exalted genius, publiſhed many anatomical obſervations, which, though disjointed, and ſcattered here and there in his works, yet make up almoſt an entire body of anatomy, when collected together. He was followed by Democritus, Empedocles, Alcmæon of Crotona, Ariſtotle, Galen, *&c.* Anatomy, however, made but ſlow, and almoſt imperceptible advances towards perfection, till the time of Andreas Veſalius, who was born at Bruſſels in the year 1514. His ſuperior genius, in conjunction with his indefatigable application and induſtry, ſoon raiſed him to ſuch a pitch of anatomical knowledge, as rendered him at once the ornament of his own, and the admiration of future ages. This accurate anatomiſt was followed by Stephanus, Vicary, Gemini, Sylvius, Servetus, Columbus, Fabricius, Riolanus, Libavius, *&c.* who all contributed to the improvement of anatomy. In 1622, Caſpar Aſellius, profeſſor of anatomy at Pavia, obſerved the lacteal veſſels in the meſentery, which he deſcribes as conveying the chyle to a large gland, ſeated in the center of the inteſtines. He, however, modeſtly declines the honour of this diſcovery, becauſe he ſays theſe lacteals were known to Hippocrates, Eraſiſtratus, and Galen. The celebrated Harvey, in the year 1628, publiſhed his diſcovery of the circulation of the blood, which was of the moſt importance to phyſic of any that was ever made, and acquired him an immortal name. Pecquet, in the year 1651, diſcovered the reſervoir of the chyle, and the thoracic duct. And Rudbecks and Bartholine in 1650, and 1651, diſcovered the lymphatic veſſels. Wharton, in 1655, diſcovered the lower ſalival ducts; and Steno the upper ſalival ducts, thoſe of the palate, noſtrils, and eyes, in 1661. Willis ſucceeded him, and publiſhed an accurate anatomy of the brain and nerves.

Anatomy is alſo greatly indebted to the accurate obſervations of Malpighius, who died in 1694. This great anatomiſt made a vaſt number of diſcoveries in the lungs, brain, liver, ſpleen, glands, lymphatics, *&c.* by the help of the microſcope. The celebrated Ruyſch has happily elucidated the finer and more intricate part of the human machine, by means of injections. Other more late writers upon anatomy are Maurice, Hoffman, Cowper, Ridley, Bartholine, Keill, How, Morgagni, Valſalva, Pacchionus, Drake, Vercellonius, Santorini, Cheſelden, Monro, Douglas, Heiſter, Winſlow, *&c.*

ANATOMY, is alſo uſed, in a leſs proper ſenſe, for the analyzing of compound bodies. See the article ANALYSIS.

ANATOMY *of plants*, is otherwiſe called dendranatomy. See the articles PLANT and DENDRANATOMY.

ANATRON, NATRON, or NATRUM, in natural hiſtory. See NATRUM.

Beſides the ſalt commonly called by this name, ſome likewiſe uſed it to denote the ſcum found on the ſurface of the compoſition of glaſs, when in fuſion; as alſo for the *terra ſarraſenica*, and a nitrous juice, which concretes in vaults and other ſubterraneous places.

ANATRON is ſometimes alſo uſed for a compound ſalt, made of quick lime, alum, vitriol, common ſalt, and nitre; and uſed as a flux to promote the fuſion of metals. See the article FLUX.

ANAXIMANDRIANS, in the hiſtory of philoſophy, the followers of Anaximander, the moſt antient of the philoſophical atheiſts, who admitted of no other ſubſtance in nature but body.

ANBURY, among farriers, the ſame with ambury. See the article AMBURY.

ANCASTER, a town of Lincolnſhire, near Lincoln, weſt longitude 30′. north latitude 52°. 50′.

ANCENIS, a town of France, in the province of Britany, weſt longitude 1°. 5′. north latitude 47°. 20′.

ANCESTORS, thoſe from whom a perſon is deſcended in a ſtrait line, the father and mother not included.

The law makes a difference between anceſtors and predeceſſors, the firſt being applied to a natural perſon, as a man and his anceſtors, and the latter to a body politic, as a biſhop and his predeceſſors. We ſay likewiſe, a prince and his predeceſſors, to ſignify the kings that have reigned before; but we never ſay a king and his anceſtors, unleſs he is by birth deſcended of his predeceſſors.

ANCESTREL, in law, ſomething that relates to, or has been done by one's anceſtors. Thus,

Homage anceſtrel ſignifies homage performed by one's anceſtors.

ANCHILOPS, in medicine, a ſmall tumour in the great angle of the eye, frequently degenerating into an abceſs, or fiſtula lacrymalis. See FISTULA.

Moſt authors uſe the terms anchilops and ægilops, in a ſynonymous ſenſe. See the article ÆGILOPS.

ANCHOR, *anchora*, in maritime affairs, an extremely uſeful inſtrument, ſerving to retain a ſhip or boat in its place.

It is a very large and heavy iron inſtrument, with a double hook at one end, and a ring at the other, by which it is faſtened to a cable.

It is caſt into the bottom of the ſea, or rivers, where taking its hold, it keeps ſhips from being drawn away by the wind, tide, or currents.

The parts of an anchor are: 1. The ring to which the cable is faſtened. 2. The beam, or ſhank, which is the longeſt part of the anchor. 3. The arm, which is that which runs into the ground. 4. The flouke or fluke, by ſome called the palm, the broad and peaked part, with its barbs, like the head of an arrow, which faſtens into the ground. 5. The ſtock, a piece of wood faſtened to the beam near the ring, ſerving to guide the fluke, ſo that it may fall right, and fix in the ground.

There are ſeveral kinds of anchors: 1. The ſheet anchor, which is the largeſt, and is never uſed but in violent ſtorms, to hinder the ſhip from being driven aſhore. 2. The two bowers, which are uſed for ſhips to ride in a harbour. 4. The ſtream anchor. 5. The grapnel.

The iron of which anchors are made, ought neither to be too ſoft nor too brittle; for, if the iron be brittle, the anchor is apt to break, and if it be ſoft, the anchor will bend. In order to give them a proper temper, it is the practice to join brittle with ſoft iron, and for this reaſon, the ſpaniſh and ſwediſh iron ought to be preferred.

The ſhank of an anchor is to be three times the length of one of its flukes, and a ſhip of 500 tons, hath her ſheet anchor of 2000 weight; and ſo proportionably for others ſmaller or greater, although Aubin obſerves, that the anchors of a large veſſel are made ſmaller in proportion than thoſe of a ſmall one.

The anchor is ſaid to be a-peak, when the cable is perpendicular between the hawſe and the anchor. See HAWSES.

An anchor is ſaid to come home when it cannot hold the ſhip. An anchor is foul, when, by the turning of the ſhip, the cable is hitched about the fluke. To ſhoe an anchor, is to fit boards upon the flukes, that it may hold the better in ſoft ground. When the anchor hangs right up and down by the ſhip's ſide, it is ſaid to be a cock bell, upon the ſhip's coming to an anchor.

The inhabitants of Ceylon uſe large ſtones inſtead of anchors, and in ſome other places of the Indies, the anchors are a kind of wooden machines loaded with ſtones.

Shoe for an ANCHOR. See SHOE.

ANCHOR is alſo uſed, in a more general ſenſe, for any thing that holds faſt another. Thus the ſea-muſcles are ſaid to ride at anchor by a kind of threads, emitted out of their bodies and faſtened to rocks and other bodies. See MUSCLE.

ANCHOR, in architecture, a ſort of carving, ſomething reſembling an anchor. It is commonly placed as part of the enrichments of the boultins of capitals of the tuſcan, doric, and ionic orders, and alſo of the boultins of bed mouldings of the doric, ionic, and corinthian cornices; anchors and eggs being carved alternately through the whole buildings.

ANCHOR, in heraldry, are emblems of hope, and are taken for ſuch in a ſpiritual as well as in a temporal ſenſe.

ANCHORAGE, or ANCHORING-GROUND, a place where a ſhip may caſt anchor.

The beſt anchoring ground is ſtiff clay or hard ſand; and the beſt place for riding at anchor, is where a ſhip is land-locked, and out of the tide.

ANCHORAGE, in law, is a duty taken of ſhips for the uſe of the port or harbour, where they caſt anchor: for the ground there belonging to the king, no man can let fall anchor thereon, without paying the king's officers for ſo doing.

ANCHORALIS PROCESSUS, the ſame as the proceſſus coracoides. See the article CORACOIDES.

ANCHORED, or ANKERED, in heraldry, is ſaid of a croſs, the four extremities of which reſemble the floukes of an anchor. This croſs reſembles very much the croſs moline, the whole difference between them conſiſting only in this, that the anchored croſs is ſomewhat ſharper at the

points than the moline. See Moline.

ANCHOVY, in ichthyology, and commerce, a ſpecies of clupea, with the upper jaw longeſt. See the article Clupea. The anchovy is ſo like the common ſprat, another ſpecies of clupea, that it is no wonder this fiſh is often pickled and ſold under its name. See plate XVII. fig. 3. Anchovies are much eſteemed in ſauces; the common way of eating them being with oil, vinegar, &c.

ANCHUSA, in botany, a genus of the pentandria monogynia claſs of plants, the calyx of which is an oblong, cylindric, acute, perianthium, divided into five ſegments, and permanent; the corolla conſiſts of a ſingle petal; the tube is cylindric, and of the length of the cup; the limb is lightly divided into five ſegments, erecto-patent and obtuſe; the opening is cloſed by five oblong, convex, prominent, and connivent ſquamulæ: there is no pericarpium: the cup becomes larger, and ſerves as a fruit, containing in its cavity four oblong, obtuſe, and gibbous ſeeds.

ANCHYLOBLEPHARON, among phyſicians, denotes a coheſion of the eye-lids. In this diſorder of the eye-lids, they ſometimes cohere to each other, and ſometimes to the globe of the eye itſelf. This is eaſily diſtinguiſhable from the ſlight glewing up of the eye-lids, from the ſmall-pox, or other the like cauſes. This diſorder is ſometimes brought with an infant into the world, ſometimes it comes upon adults by a fleſhy excreſcence from the angles of the eyes, and ſometimes it happens from accidents, as blowing up of gun-powder, and the like. This is always dangerous, and difficult of cure, but moſt ſo when the eye-lids grow to the cornea. They are to be divided by a blunt-pointed pair of ſciſſars, and when ſeparated from each other, it muſt be tried whether they adhere to the eye; if they do, they muſt be ſeparated with great caution with a blunt pointed ſcalpel; but there is here great danger of injuring the ſight; when ſeparated, they muſt be kept from touching one another, to prevent their cohering again, by lint, or a plate of lead.

ANCLAM, a town of Pomerania, in Germany, ſituated on the river Pene, in eaſt long. 14°. and north latit. 54°. about forty-five miles north-weſt of Stetin.

ANCLE, *Talus*, and *Aſtragalus*, in anatomy. See the article Astragalus.

Ancle *luxated*, in ſurgery. The ancle is ſubject to be luxated, either in running, in jumping, or even in walking; and that in four directions, either inward or outward, backward or forward. When the ancle is luxated inward, the bottom of the foot is turned outward; and on the contrary, when it is luxated outward, the bottom of the foot is turned inward, which latter caſe is indeed much more frequent than the others. If it is diſlocated forward, the heel becomes ſhorter, and the foot longer than it ſhould be; and if backward, the contrary ſigns to theſe will appear. The ancle however can ſcarce poſſibly be luxated outwards, unleſs the fibula be ſeparated from the tibia, or elſe quite broken, which may happen to the external ancle; nor is it at all uncommon for a luxation of the ancle to be attended with very grievous ſymptoms, eſpecially when occaſioned by ſome great external violence; nor can it indeed well happen otherwiſe, in this caſe, ſince the diſtortion of the foot muſt neceſſarily overſtrain the adjacent tendons, ligaments, and nerves, and thence excite very violent pains, and other bad ſymptoms, or the veins and arteries may alſo be very eaſily lacerated, which will occaſion a large extravaſation of blood about the whole foot, which too often gives riſe to a gangrene. It is, however, neceſſary to obſerve, that the ancle is not always luxated, after it has been violently ſtrained by leaping or turning the foot on one ſide; for it ſometimes happens, that the ancle is not diſlocated on theſe occaſions, but only the parts are violently contuſed and ſtrained. The ancle, when truly luxated, is more or leſs difficult to be reduced, according to the violence of the force by which the accident was occaſioned. The moſt ready way, however, of reducing a luxation of the ancle, according to Heiſter, is, to place the patient upon a bed, ſeat, or table, letting the leg and foot be extended in oppoſite directions by two aſſiſtants, while the ſurgeon replaces the bones with his hands and fingers in their proper ſituation. When the foot is by this means reſtored to its proper poſition, it is to be well bathed with oxycrate and ſalt, and then carefully bound up with a proper bandage. The patient muſt be enjoined to keep his bed for a conſiderable time, till the bad ſymptoms are gone, and the ancle has recovered its ſtrength ſo far, as to bear the weight of the body, without any uneaſineſs or danger.

ANCOBER, or Rio-cobre, a river on the coaſt of Guinea, in Africa.

ANCON,

ANCON, ἀγκὼν, in anatomy, the gibbous eminence, or flexure of the cubit, the middle of the eminence on which we lean, being the greateſt of the two apophyſes of the ulna, and the ſame with the olecranon. See the article OLECRANUM.

ANCONA, a ſea-port town of Italy, ſituated on the gulph of Venice, in eaſt longitude 15°, and north latitude 43°. 20′. It is the capital of a marquiſate of the ſame name, ſubject to the pope.

ANCONÆUS, in anatomy, the ſixth muſcle of the elbow; ſo called, as being ſituate behind the folds of the ancon.

It ariſes from the back part of the extremities of the humerus, paſſes over the elbow, and is inſerted into the lateral and internal part of the cubitus, about three or four fingers breadth above the olecranum. Its uſe is to aſſiſt in extending the arm.

ANCONES, in architecture, the corners, or coins of walls, croſs-beams, or rafters. Vitruvius calls the conſoles, which are a ſort of ſhouldering pieces, by the name ancones.

ANCONY, in mineralogy, denotes a bloom of iron faſhioned into a flat bar, about three feet long, with a ſquare rough knot at each end.

The proceſs for bringing the iron to this ſtate is this: they firſt melt off a piece from a ſow of caſt iron, of the proper ſize; this they firſt hammer at the forge into a maſs of two feet long, and of a ſquare ſhape, which they call a bloom; when this is done, they ſend it to the finery, where, after two or three heats and workings, they bring it to this figure, and call it an ancony. The middle part beat out at the finery is about three feet long, and of the ſhape and thickneſs the whole is to be, this is then ſent to the chafery, and there the ends are wrought to the ſhape of the middle, and the whole made into a bar.

ANCYLE, ἀγκύλη, in antiquity, a kind of ſhield which fell, as was pretended, from heaven in the reign of Numa Pompilius. At which time likewiſe a voice was heard, declaring that Rome ſhould be miſtreſs of the world as long as ſhe ſhould preſerve this holy buckler.

Authors are much divided about its ſhape: however it was kept with great care in the temple of Mars, under the direction of twelve prieſts, and leſt any ſhould attempt to ſteal it, eleven others were made ſo like as not to be diſtinguiſhed from the ſacred one. Theſe ancylia were carried in proceſſion every year round the city of Rome.

ANCYLE, in ſurgery, a diſtortion of the joints, cauſed by a ſettlement of the humours, or a diſtention of the nerves; in which caſe remedies of a mollifying and relaxing nature are required. See the article JOINT.

ANCYLOGLOSSUM, ἀγκυλογλωσσον, among phyſicians, denotes a contraction of the ligaments of the tongue, hindering ſpeech. This happens, either when the membrane which ſupports the tongue is naturally imperfect or of too hard a ſubſtance, or is occaſioned by a preceding ulcer, and a hard cicatrix left under the tongue. It is to be cured only by manual operation by the ſurgeon.

The effect of the ancyloglоſſum is not only to hinder the uſe of ſpeech, but in children it alſo diſables them from ſucking. The cure is performed by a careful ſection of the frænum, ſo as not to hurt the nerves, or other veſſels.

This operation is never to be performed, where the infant is able to thruſt its tongue ſtraight out of the mouth.

Fabricius ab Aquapendente complains ſeverely on the officiouſneſs of midwives, who, without ever examining the condition of the frænum, practiſe the operation promiſcuouſly on all infants, from an opinion, that without it the child would never be able to ſpeak. But, according to this author, there is ſcarce one child in 100,000 in whom this ligament needs any cutting at all.

ANCYLOMELE, a ſurgeon's crooked probe. See the article PROBE.

ANCYLOSIS, ἀγκύλωσις, in ſurgery, the ſame with ancyle. See ANCYLE.

ANCYROIDES, ἀγκυροειδὴς, among anatomiſts, the ſame with what is called coracoides. See the article CORACOIDES.

ANDABATÆ, ἀνδαβάται, in antiquity, a ſort of gladiators, who mounted on horſeback, or in chariots, fought hoodwinked, having a helmet that covered their eyes.

ANDALUSIA, the moſt ſouth-weſt province of Spain, having Eſtremadura and new Caſtile on the north; and Granada, the ſtraits of Gibraltar, and the Atlantic ocean on the ſouth.

New ANDALUSIA, a province of Terra Firma, in ſouth America, lying on the coaſt of the Atlantic ocean, oppoſite to the leeward iſlands, having the river Oroonoco on the weſt.

ANDAMAN, the name of ſome ſmall iſlands, ſituated on the eaſt ſide of the entrance

trance of the bay of Bengal, in eaſt longitude 92°. and north latitude 15°.

ANDENES, an iſland in the north ſea, upon the coaſt of Norway. It is only inhabited by fiſhermen.

ANDERLECHT, a fortreſs of the auſtrian Netherlands, about two miles ſouth of Bruſſels.

ANDERNACHT, a city of Germany, ſituated on the lower Rhine, in eaſt longitude 7°. and north latitude 50°. 25'. about thirty miles ſouth of Cologn.

ANDERO, a ſea-port town of Spain, in the province of Biſcay, about ſixty miles weſt of Bilboa, ſituated in weſt longitude 4°. 30'. and north latitude 43°. 20'. Here the Spaniards build and lay up ſome of their men of war.

ANDES, a vaſt ridge of mountains, which runs almoſt the whole length of ſouth America. They are eſteemed the higheſt in the world, being covered with ſnow in the warmeſt climates, and from thence called the Sierras Nevada, or the ſnowy mountains.

ANDEUSE, a city of Languedoc, in France, ſituated in eaſt longitude 3°. 40'. and north latitude 43°. 45'.

ANDOVER, a large market-town in Hampſhire, ſituated about ten miles north-weſt of Wincheſter, in weſt longitude 1°. 30'. and north latitude 51°. 20'. It ſends two members to parliament.

ANDRACHNE, in botany, a genus of the monoecia gynandria claſs of plants; the corolla of the male flower is formed of five emarginated ſlender petals, ſhorter than the cup; the female flower has no corolla; the fruit is a capſule containing three cells, with two obtuſe trigonal ſeeds, roundiſh on one ſide, and angular on the other.

ANDREW, *or knights of* St. Andrew, an order of knights more uſually called the order of the thiſtle. See the article Thistle.

Knights of St. Andrew is alſo an order inſtituted by Peter the great of Muſcovy, in 1698; the badge of which is a golden medal, on one ſide whereof is repreſented St. Andrew's croſs, and on the other are theſe words: *Czar Pierre monarque de tout la Ruſſie.*

This medal, being faſtened to a blue ribbon, is ſuſpended from the right ſhoulder.

St. Andrew's Cross, in heraldry, is a croſs in form of the letter X. See the article Cross.

St. Andrew's-Day, a feſtival of the chriſtian church, celebrated on the thirtieth of November, in honour of the apoſtle St. Andrew.

St. Andrew's, in geography, a city in the county of Fife in Scotland, ſituated on the german ocean, in weſt longitude 2°. 25'. and north lat. 56°. 20'. about thirty miles north-eaſt of Edinburgh.

St. Andrews was formerly an archbiſhop's ſee, but at preſent is chiefly remarkable on account of its univerſity.

St. Andrew's is alſo the name of a town of Carinthia in Germany, ſituated in eaſt long. 15°. and north latit. 47°. about a hundred miles ſouth of Vienna.

ANDRIA, ἀνδρεία, in grecian antiquity, public entertainments firſt inſtituted by Minos of Crete, and, after his example, appointed by Lycurgus, at Sparta, at which a whole city, or a tribe, aſſiſted. They were managed with the utmoſt frugality, and perſons of all ages were admitted, the younger ſort being obliged by the law-giver, to repair thither as to ſchools of temperance and ſobriety.

Andria, in geography, a city of Italy, in the kingdom of Naples, ſituated in eaſt longitude 17°. and north latitude 41°. 6'. It is a biſhop's ſee.

ANDROGYNOUS, ἀνδρόγυνος, in zoology, an appellation given to animals, which have both the male and female ſex in the ſame individual. Theſe are otherwiſe called hermaphrodites. See Hermaphrodite.

ANDROIDES, ἀνδροειδής, in mechanics, a human figure, which by certain ſprings, performs ſeveral external functions of a man. See the article Automaton.

ANDROLEPSY, ἀνδρολη‌ψία, in grecian antiquity, an action allowed by the Athenians, againſt ſuch as protected perſons guilty of murder. The relations of the deceaſed were empowered to ſeize three men in the city or houſe, whither the malefactor had fled, till he were either ſurrendered, or ſatisfaction made ſome other way for the murder.

ANDROMACHUS's Treacle, *andromachi theriaca*, in pharmacy, *&c.* See the article Theriaca.

ANDROMEDA, in aſtronomy, a ſmall northern conſtellation, conſiſting of twenty-ſeven ſtars, viſible to the naked eye; behind Pegaſus, Caſſiopeia, and Perſeus. See the article Pegasus, *&c.*

Andromeda, in botany, a genus of the decandria monogynia claſs of plants; the calyx of which is a very ſmall acute coloured and permanent perianthium, cut into five ſegments; the corolla conſiſts of a ſingle petal, of an oval form, inflated and

and quinquefid; the fruit is a roundish capsule, containing five cells, in which are several roundish shining seeds.

ANDRON, ανδρων, in grecian antiquity, denotes the apartment in houses, designed for the use of men; in which sense, it stands opposed to gynæceum. See the article GYNÆCEUM.

ANDRONION, among antient physicians, a name given to troches invented by Andron.—They were made of balustines, birthwort, plumose alum, vitriol, myrrh, aloes, frankincense; and were reckoned good for deterging the callosities of ulcers.

ANDROPOGON, in botany, a genus of the polygamia monoecia class of plants, the calyx of which is a bivalve oblong, obtuse glume; the corolla is also a bivalve glume, smaller and thinner than the cup; there is no pericarpium; the seed, which is single, oblong, covered and armed with the arista of the flower, is included in the glumes of the calyx and corolla.

ANDROS, an island in the Archipelago, near the south end of Negropont.

ANDROSACE, in botany, a distinct genus of plants, the flower of which consists of one saucer-like petal, very wide at the mouth, and divided into five segments; and its fruit is a globose, unilocular capsule, containing a number of small oval or roundish seeds, affixed to a placenta. See plate XVIII. fig. 1.

This genus, which belongs to the pentandria monogynia class of Linnæus, takes its name from the relief it gives mankind; being aperitive, and good in the gout, dropsy, and retention of urine.

ANDROTOMY, or ANDRANATOMY, the dissection of a human body, in contradistinction to zootomy. See ZOOTOMY.

ANDRYALA, in botany, a genus of the syngenesia polygamia æqualis class of plants, the common calyx of which is short, multifid, round and hairy: the compound flower is imbricated and uniform, with numerous and equal hermaphrodite corollulæ; the proper flower is monopetalous, ligulated, linear, truncated, and divided into five segments: there is no pericarpium; and the seed, which is single, oval, and crowned with down, has no other cover but the cup.

ANDUXAR, a city of Andalusia in Spain, situated on the river Guadalquiver, about thirty-two miles east of Corduba, in west long. 4°. and north latit. 37°. 50′.

ANECDOTE, ανεκδοτον in matters of literature, some fact relating to history, not formerly published to the world, or generally known.

Anecdotes have something in them very alluring, especially when they regard persons of distinction: such is the insatiable thirst of mankind after knowledge! However, it is proper to remark, that few of the many pieces published under the title of anecdotes, truly deserve that name, as being filled with a multitude of facts and circumstances to be found in other writers.

ANECDOTES, *anecdota*, is also a name given to the works of the antients, which have never been published in print.

ANEE, in commerce, a measure for grain, used in some provinces of France.

Anee at Lyons, signifies also a certain quantity of wine, which is the load an ass can carry at once.

That load is fixed at eighty english quarts wine measure.

ANEGADA, one of the Caribbee islands, situated in west longitude 63°. 5′. and north latitude 18°.

ANELE, or ANIL, in our old statutes, names used for indigo. See INDIGO.

ANEMIUS, among chemists, an appellation given to a wind furnace used in making fierce fires for melting and distillation.

ANEMOMETER, among mechanical philosophers, an instrument contrived for measuring the strength of the wind. There are various kinds of anemometers: that of which Wolfius gives the structure, is moved by sails like those of a wind-mill. He experienced, he says, the goodness of it, and affirms that the inward structure may be preserved to measure even the force of running water, or that of men and horses when they draw. In the memoirs of the academy of sciences is described a new anemometer, which expresses on paper, not only the several winds that have blown during the space of twenty-four hours, but also the strength and velocity of each. For the description, construction, and representation of an anemometer. See the article VELOCITY and force of the WIND.

ANEMONE, WIND-FLOWER, in botany, the name of a distinct genus of plants. See the article WIND-FLOWER.

ANEMOSCOPE, according to Vitruvius's description, a machine shewing from what point of the compass the wind blows. Such is that at Buckingham-house, in London. See the article WIND.

This is done by means of an index moving about an upright circular plate, the index being turned by an horizontal axis, and the axis by an upright ſtaff, at the top of which is the fane moved about by the wind.

Anemoſcope denotes alſo an inſtrument invented to foretell the changes of the wind. Otto Guerick gave this name to a machine he invented, conſiſting of a little wooden man, which by riſing and falling in a glaſs tube, ſhewed the change of the weather. But it has been diſcovered, that this was only an application of the common barometer. See BAROMETER.

ANETHUM, DILL, in botany. See the article DILL.

ANEURISM, or ANEURYSM, in ſurgery, a throbbing tumour, diſtended with blood, and formed by a dilatation or rupture of an artery.

Surgeons uſually diſtinguiſh two kinds, the true and the ſpurious. A true aneuriſm has always a pulſation more or leſs, and is formed by a dilatation only of the artery either all round, or on one ſide of it. The ſpurious aneuriſm is when the artery being opened by a puncture, wound, eroſion, or other external violence, extravaſates the blood betwixt the muſcles and integuments, the limb being thereby rendered livid and ſwelled. A true aneuriſm may likewiſe degenerate into one that is ſpurious, by a gradual dilatation of the artery, till by the burſting of the coats, the blood is either extravaſated, or diſcharged freely from the wound.

Aneuriſms may be alſo diſtinguiſhed, from the ſituation of the arteries, into external and internal; the firſt affecting ſome external, the other an internal artery. Though aneuriſms moſt frequently happen in the brachial artery, yet the diſorder is not reſtrained to that part alone; for they may ariſe from an infinite number of caſes, both external and internal, in all parts, where there are any arterial trunks or conſiderable branches diſtributed.

The cure of aneuriſms differs according to their kind. A ſmall one of the true ſpecies may be removed by diligation; that is, by a compreſs and bandage, or by an inſtrument adapted for the purpoſe. But if that method ſhould not ſucceed, recourſe muſt be had in this, as in large and ſpurious aneuriſms, to inciſion.

ANGARIA, in roman antiquity, a kind of public ſervice, impoſed on the provincials, which conſiſted in providing horſes and carriages for the conveyance of military ſtores, and other public burdens.

ANGARIA is ſometimes alſo uſed for a guard of ſoldiers, poſted for the defence of a place.

ANGARIA, in a more general ſenſe, is uſed for any kind of oppreſſion, or ſervices performed through compulſion.

ANGEIOGRAPHY, or ANGEIOLOGY, among anatomiſts, the deſcription and hiſtory of the ſeveral veſſels of the human body, as the arteries, veins, nerves, lymphatics, &c. See ARTERY, VEIN, &c.

ANGEIOGRAPHY, among antiquarians, denotes the deſcription of the various utenſils, weights, meaſures, &c. of the antients.

ANGEL, a name given to thoſe ſpiritual, intelligent beings, who are ſuppoſed to execute the will of God, in the government of the world.

The exiſtence of angels has been admitted in all religions. The Greeks and Latins acknowledged them under the name of genii or demons; and in the alcoran, we find frequent mention of them, the mahommedans aſſigning them different orders and degrees, and different employments both in heaven and earth. Though among the Jews in general, the exiſtence of angels was believed (the Sadduces only excepted, who denied the exiſtence of all ſpirits whatever, but God) yet they do not ſeem to have known the names of any angel before the babyloniſh captivity. Tobit, who is thought to have lived at Nineveh ſome time before that event, is the firſt who has called an angel by his name. He mentions Raphael; and Daniel, who lived ſometime after Tobit, has taught us the names of Michael and Gabriel. As to the nature of angels, authors are not ſo unanimous as about their exiſtence. The moſt univerſal opinion is, that they are of a ſpiritual, incorporeal nature; yet many of the old fathers imagined them to be corporeal, and capable of ſenſual pleaſures. Nor are they better agreed concerning the time when angels were created. Some think that they were created at the ſame time as the heavens; the Hebrews conjecture that God created them upon the ſecond day of the world; and finally, others have aſſerted, that they exiſted long before the ſenſible world.

As to their office or employment, ſome are ſaid to preſide over empires, nations, provinces, cities, and particular perſons.

These latter are stiled guardian angels. Thus Michael is acknowledged to be the protector of the people of Israel; and in the New Testament, we read of saint Peter's angel who set him at liberty; and Jesus Christ enjoins us not to despise little ones, because their angels continually behold the face of God.

The number of angels is no where mentioned in scripture; but it is always represented as immensely great, and also that there is a subordination among them. Hence ecclesiastical writers make an hierarchy of nine orders of angels. See the article HIERARCHY.

But besides these, we read of evil angels, the ministers of God's wrath; as the destroying angel, the angel of death, the angel of Satan, and the angel of the bottomless pit. Thus God smote Senacherib's army with the sword of the destroying angel; he slew David's subjects with the sword of the angel of death; and the angel of Satan buffetted St. Paul. The angel of the bottomless pit is the prince of devils, the same with the destroying angel. In general, good and bad angels are distinguished by the opposite terms of angels of light, and angels of darkness.

And to conclude, those angels that kept not their first estate, but fell from their obedience into sin, for which they were expelled the regions of light, and cast down into hell, to be reserved in everlasting chains under darkness, until the judgment of the great day, are called fallen angels.

ANGEL is likewise a title given to bishops of several churches. In this sense is St. Paul understood by some authors, where he says women ought to be covered in the church, because of the angels; and thus in the Revelations, *the seven stars are the angels*, that is, bishops *of the seven churches*.

ANGEL, in commerce, the name of an antient gold coin in England, of which some are still to be seen in the cabinets of the curious. It had its name from the figure of an angel represented upon it. It was 23 ½ carats fine, and weighed four penny-weights. Its value differed in different reigns.

The French have also had their angels; but they are now out of use.

ANGEL-FISH, in ichthyology, a name by which some call the squalus, with no pinna ani, and the mouth situated in the top of the head. See SQUALUS.

ANGELIC, or ANGELICAL, in a general sense, an epithet given to whatever belongs to, or partakes of the nature of angels. See the article ANGEL.

ANGELIC is also a denomination figuratively given to several things, on account of their superior excellence. Thus we read of an angelic life, angelic poem, angelic pills, *&c.*

ANGELIC-HABIT. See the article HABIT.

ANGELICA, in botany, a genus of the pentandria digynia class of plants, the general umbel of which is roundish and multiple; the partial umbel, while in flower, is perfectly globose; the general involucrum is composed of either three or five leaves; the partial involucrum is small, and composed of eight leaves; the proper perianthium is small, and quinquedentate; the general corolla is uniform; the single flowers consist each of five deciduous, lanceolated, and slightly crooked petals; the fruit is naked, roundish, angular, and separable into two parts: the seeds are two, of an oval figure, plain on one side, and convex or striated on the other.

Angelica is a simple much esteemed for its medicinal virtues, being reputed stomachic, cordial, alexipharmic, and of great use in pestilential fevers, in all contagious distempers, and the plague itself. But the virtues ascribed to it on this account, are somewhat too great. At present it is regarded little otherwise than as a carminative. It has been made an ingredient in many of our officinal compositions. The stalks make a very pleasant sweetmeat preserved with sugar, which is a very good way of taking angelica on many occasions.

Berry-bearing ANGELICA, *Aralia*. See the article ARALIA.

ANGELICA, in grecian antiquity, a celebrated dance performed at their feasts; so called, because the dancers were dressed in the habit of messengers.

ANGELICS, *angelici*, in church history, an antient sect of heretics, supposed by some to have got this appellation from their excessive veneration of angels, and by others from their maintaining that the world was created by angels.

ANGELICS, *angelici*, is also the name of an order of knights, instituted in 1191, by Angelus Flavius Comnenus, emperor of Constantinople.

Some will have this order, which still subsists in Italy, to have been much more antient, making Constantine its founder.

ANGELO, or St. ANGELO, a ſea-port town of Apulia in Naples, ſituated on the gulph of Venice, in 16° 25′ eaſt longitude, and 41° 20′ north latitude.

This is alſo the name of two other ſmall towns in Italy, one ſituated in the kingdom of Naples, and the other in the province of Urbino.

ANGELOS, a fine city of Mexico, ſituated in 103° weſt longitude, and 19° north latitude, about ſeventy-five miles ſouth-eaſt of the city of Mexico.

ANGELOT, in the hiſtory of coins, a gold coin ſtruck at Paris, while ſubject to the Engliſh, ſo called from the repreſentation of an angel ſupporting the arms of England and France.

ANGER, *ira*, among moral philoſophers, denotes a violent paſſion, or propenſity, to take vengeance on the authors of ſome ſuppoſed injury done to the angry perſon. Mr. Hutcheſon, having defined anger, a propenſity to occaſion evil to another, ariſing upon apprehenſion of an injury done by him, obſerves, that this violent propenſity is attended generally, when the injury is not very ſudden, with ſorrow for the injury ſuſtained, or threatened, and deſire of repelling it, and making the author of it repent of his attempt, or repair the damage.

But beſides theſe conditions, which are good, in ſome ſort intended by men when they are calm, as well as during the paſſion, there is in the angry perſon a propenſity to occaſion miſery to the offender, a determination to violence, even where there is no intention of any good to be obtained or evil avoided by this violence. And it is principally this propenſity which we denote by the name anger, though other deſires often accompany it.

Anger in ſcripture is often attributed to God, not that he is capable of thoſe irregular motions which this paſſion produces, but becauſe he puniſhes the wicked with the ſeverity of a provoked father.

ANGERMANIA, a maritime province of Sweden, lying on the weſtern ſhore of the Bothnic gulph.

ANGERMUND, a town of the dutchy of Berg in Germany, ſituated on the eaſt ſide of the Rhine in 6° 20′ eaſt longitude, and 51° 10′ north latitude. It lies about nine miles north of Duſſeldorp, and is ſubject to the elector palatine.

ANGERONALIA, in antiquity, feaſts celebrated at Rome in honour of Angerona, the goddeſs of ſilence and patience. They were inſtituted, according to Macrobius, in conſequence of a vow, when the people were afflicted with the quinzy, *angina*. They were held on the twenty-firſt of December.

ANGERS, a large city of France, capital of the province of Anjou, and ſituated on the river Loire, in 30′ weſt longitude, and 47° 30′ north latitude. It is a biſhop's ſee, and has a royal academy for the ſtudy of the law chiefly.

ANGHIERA, a town of the Milaneſe in Italy, ſituated on the eaſt ſide of the Laco Maggiore, about forty miles weſt of Milan, in 9° eaſt longitude and 45° 40′ north latitude.

ANGINA, in medicine, a violent inflammation of the throat, otherwiſe called quinzy. See the article QUINZY.

ANGIOSPERMIA, in the linnæan ſyſtem of botany, denotes thoſe plants of the *didynamia* claſs, which have their ſeeds incloſed in a capſule, or ſeed-veſſel. See the article DIDYNAMIA.

The angioſpermia are diſtinguiſhed from the gymnoſpermia, which have them ſo; becauſe the angioſpermia have them encloſed in a capſule, and adhering to a placenta placed in the middle of that capſule. The claſs of didynamia contains the labiated and perſonated plants. The angioſpermia are the perſonated, the others the labiated kinds. See the article GYMNOSPERMIA.

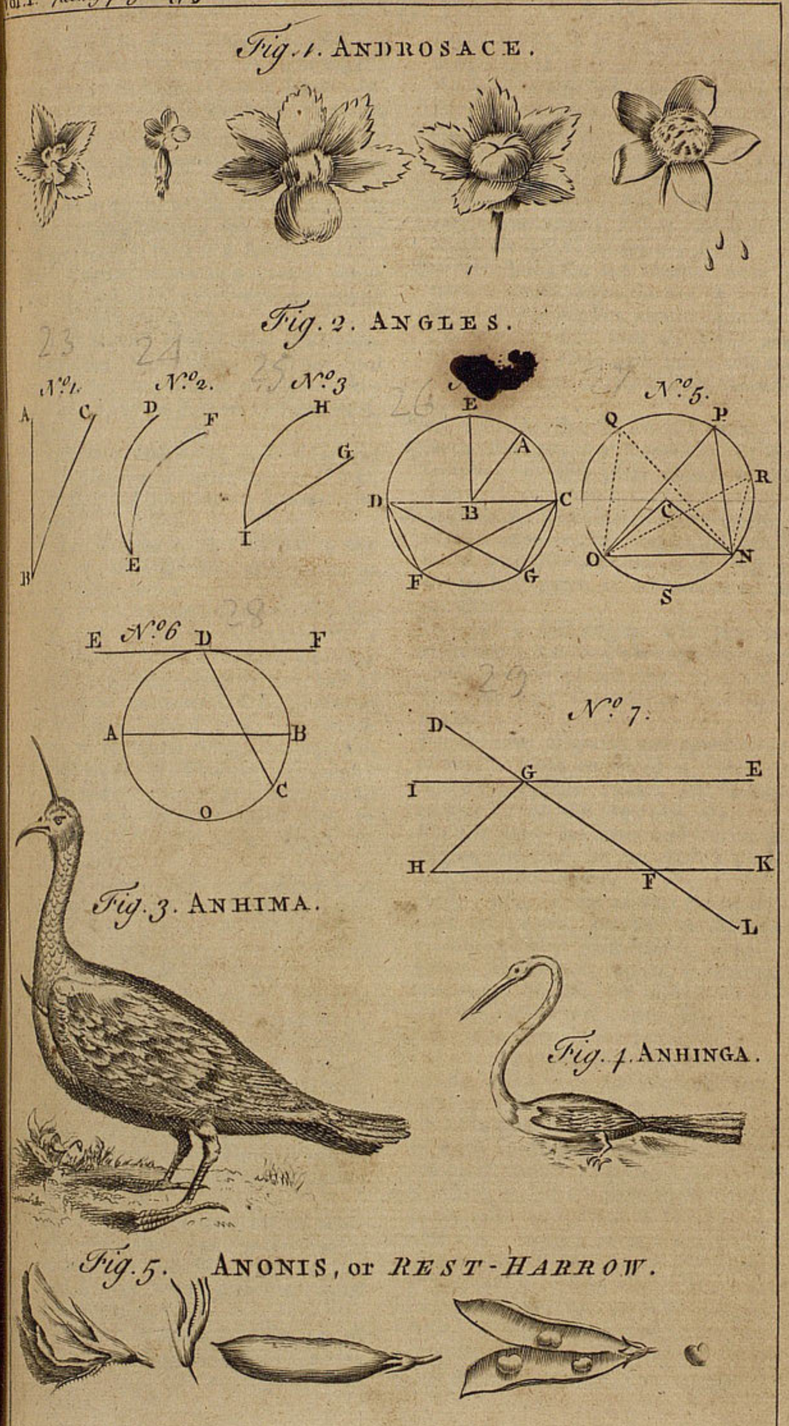
ANGLE, *angulus*, in geometry, the inclination of two lines meeting one another in a point, and called the legs of the angle. Thus A B C (plate XVIII. fig. 2. N°. 1.) is the angle made by the two lines A B, B C meeting in the point B, which is the vertex of the angle.

Angles are either rectilineal, or right-lined, as A B C, above referred to; or curvilineal, as D E F (fig. 2. N°. 2); or, laſtly, formed of a ſtrait line and a curve one, and thence called mixed, as H I G, *ibid.* N°. 3.

Angles are of great uſe in almoſt every branch of mathematics. They make one half the ſubject of trigonometry, and have much to do in geography, aſtronomy, &c.

Rectilineal angles, according to the greater or leſſer degree of inclination, are either right, acute, or obtuſe.

Right ANGLE, is that formed between two lines, one of which ſtands upright, or perpendicularly, on the other, inclining no more one way than it does the other: ſuch is the angle E B C; (*ibid.* N°. 4.): for if B C be produced to D, E B will be



T. Jefferys sculp.

be found to ſtand upright on D C, or to incline neither way. A right angle is ſaid to be an angle of ninety degrees, becauſe meaſured by a quadrant of a circle, or $\frac{360}{4}=90$; ſo that a right angle, or an angle of ninety degrees, is the ſame thing.

Acute ANGLE, one whoſe vertex is acute, or ſharp, being always leis than a right angle: ſuch is the angle A B C, *ibid.*

Obtuſe ANGLE, one with a blunt or obtuſe vertex, as A B D, which is always greater than a right angle, *ibid.*

Angles likewiſe receive other denominations from their different poſitions, and the relation they bear to the figures they are in, and to the lines which form them. Hence,

ANGLES *in a ſemi-circle*, thoſe ſubtended by the diameter of that circle, as D F C, D G C, (*ibid.*) which are always right angles.

ANGLE *at the center*, that formed by two radii, or ſemi-diameters of a circle, as O C N, *ibid.* N°. 5.

ANGLE *at the circumference*, or *in a ſegment*, that formed by two chords of a circle meeting at the circumference: ſuch is O P N, (*ibid.*) which is only half of the angle at the center O C N, ſubtended by the ſame chord O N; or, which comes to the ſame thing, it is equal to half the arc O S N. Moreover, all angles in the ſame ſegment, and conſequently ſubtended by the ſame chord O N, as O Q N, O P N, O R N, are equal to one another.

ANGLE *of a ſemi-circle*, that formed by a diameter and the circumference of a circle, as B A O, (*ibid.* N°. 6) which is leſs than a right angle, and yet greater than any rectilineal acute one.

ANGLE *of a ſegment*, that which a chord in a circle makes with the tangent at the point of contact: ſuch are the angles E D C, F D C: the former being the angle of the greater ſegment, and the latter of the leſſer ſegment, *ibid.*

ANGLE *of contact*, that which the tangent of a circle forms with its circumference, as E D A, (*ibid.*) which is leſs than any right-lined angle.

ANGLES are ſaid to be adjacent or contiguous, which have one leg common to both, as D G I and D G E, (*ibid.* N°. 7.) which taken both together are equal to two right angles.

Oppoſite, or *vertical* ANGLES, thoſe formed by two lines croſſing each other, as the angles D G I, E G F, (*ibid.*) which are always equal.

An angle is alſo ſaid to be oppoſite to the ſide that ſubtends it: thus G H F is to the ſide oppoſite G F.

Again, when one of the ſides of a triangle is produced, as from F to K, (*ibid.*) the external angle G F K, is equal to the two internal angles F G H and F H G, which are ſaid to be oppoſite to it.

Alternate ANGLES, the internal pairs of acute or obtuſe angles, formed by a right line D L cutting two parallel right lines I E, H K (*ibid.*): ſuch are E G F and G F H, both acute and equal; alſo the obtuſe ones I G F and G F K, likewiſe equal.

Plain ANGLE. See the article PLAIN.

Spherical ANGLE, that formed by the interſection of two great circles of the ſphere.

Solid ANGLE, that formed by the meeting of three or more plain angles, not being in the ſame plain, in one point: ſuch is the angle of a dye, of a ſquare box, or the like.

In regard to ſolid angles, it has been demonſtrated, that the plain angles forming them, are always leſs than three hundred and ſixty degrees, or four right angles.

For the other properties and appellations of angles, when combined in triangles, ſquares, polygons, circles, *&c.* ſee the articles TRIANGLE, SQUARE, *&c.*

For the ſines, tangents, and ſecants of angles, ſee the articles SINE, TANGENT, and SECANT.

And, laſtly, for the various denominations of angles, peculiar to different branches of mixt mathematics, as navigation, fortification, optics, mechanics, aſtronomy, *&c.* ſee the articles NAVIGATION, FORTIFICATION, *&c.*

ANGLE *of incidence.* See INCIDENCE.

ANGLE *of reflection.* See REFLECTION.

ANGLE *of refraction.* See REFRACTION.

ANGLE *of viſion.* See VISION.

ANGLES *of the eye*, in anatomy, the ſame with the corners of the eye, called by anatomiſts *canthi.* See CANTHI.

ANGLER, a perſon who practiſes the art of angling, whether as a diverſion, or otherwiſe. See the article ANGLING.

The tackle neceſſary for an angler is various, according to the branch of the art he applies himſelf to. He muſt be equipt with variety of hooks, and a competent quantity of every ſort; he muſt not be

without wax, silk, and a pair of sciffars or pen-knife, a basket, or bag, and landing-net, plummets, shot, and floats of every kind, needles and thread, lines, hair, indian grass, variety of feathers, more particularly those taken from the neck of a mallard, the wing of a partridge, a capon's neck, the top of a plover, or the hackle of a red cock. He must likewise be furnished with twist, and bedding for dubbing his artificial flies; he must have a landing-hook, reels for his silk lines, a pouch or book for his hair lines, a convenient place wherein to reposite his small craft, *viz.* flies, hooks, wax, shot, silk, *&c.* a bag for his worms, a tin box for his gentles.

When he takes his stand, he is to shelter himself under some bush, or tree, or stand so far from the brink of the river that he can only discern his float; by reason fish are timorous, and easily frighted. The best way of angling with the fly is down the river, and not up; neither need the angler ever make above half a dozen of trials in one place, either with fly or ground bait, when he angles for trout: by that time the fish will either offer to take, or refuse the bait and not stir at all.

The angling rod must be kept in a moderate state, neither too dry nor too moist, in the first case it will be brittle, in the other rotten. When pastes are used, it is proper to mix a little tow with them, and rub them over with honey; finally, a small anointing them with butter is of great use to keep them from washing off the hook. The eyes of any fish that is taken are an excellent bait, for almost any other kind of fish.

ANGLESEY, an island and county of north Wales, which sends one member to parliament.

ANGLICANÆ GUTTÆ, ENGLISH DROPS, in chemical pharmacy. See the article DROPS.

ANGLICANUS *sudor*, among physicians. See the article SUDOR.

ANGLICISM, in matters of stile, a manner of speech peculiar to the English language. See ENGLISH and LANGUAGE.

ANGLING, among sportsmen, the art of fishing with a rod, to which are fitted a line, hook, and bait. See ANGLER.

In angling the following rules are to be observed. 1. To place yourself so that your shadow do not at any time lie upon the water if shallow. 2. To angle in a pond near the ford where the cattle go to drink, and in rivers, in such places as the fish you intend to angle for, usually frequent; as for breams, in the deepest water; for eels, under banks; for chub, in deep shaded holes; for pearch, in scowrs; for roach, in the same places; for trouts, in quick streams.

The best times for angling are from April to October; for in cold stormy weather, or bleak easterly winds, the fish will not bite. The time of the day, in the warm months, is in the morning, about nine o'clock, and in the afternoon, between three and four. In order to attract the fish to the place intended for angling, it will be proper once in four or five days to cast in some corn boiled soft, garbage, worms choped to pieces, or grains steeped in blood, and dried; and if you fish in a stream, it will be best to cast in the grains above the hook.

The best way of angling with the fly is down the river; and in order to make the fish bite freely, be sure to use such baits as you know they are naturally inclined to, and in such manner as they are accustomed to receive them.

The several methods of angling for salmon, trout, carp, tench, pearch, pike, dace, gudgeons, roach, flounder, *&c.* may be seen under the articles *Salmon* FISHING, *Trout* FISHING, *&c.*

ANGLO-SAXON, an appellation given to the language spoken by the English Saxons, in contradistinction from the true Saxon, as well as from the modern English. See SAXON and ENGLISH.

ANGOL, a city of Chili, in south America, situated in 78° west longitude, and 38° south latitude.

ANGOLA, a large maritime country on the south-west side of Africa, lying between 10° and 15° east longitude, and 5° and 16° south latitude.

The Portuguese have several colonies and considerable settlements on this coast, which does not hinder the other nations of Europe from driving a traffic in slaves with the natives, who are all negroes.

ANGON, in the antient military art, a kind of javelin used by the French. They darted it a considerable distance. The iron head of this weapon resembled a flower-de-luce. It is the opinion of some writers, that the arms of France are not flowers-de-luce, but the iron point of the angon, or javelin of the antient French.

ANGOULESME, a city of France, situated about sixty-four miles south-east of Rochelle, in 10° east longitude, and 45° 40'

40′ north latitude. It is the capital of Angoumois. See the next article.

ANGOUMOIS, a province of France, bounded by Poictou on the north, by Limoſin on the eaſt, by Perigord on the ſouth, and by Santoin on the weſt.

ANGOURA, or ANCYRA, a large populous city of Natolia, in aſiatic Turky, ſituated on the river Melus: eaſt longitude 33°, north latitude 41° 5′.

ANGRA, the principal town of the iſland of Tercera, one of the Azores. See the articles AZORES.

ANGROGNA, a town of Piedmont, ſituated about ſeven miles weſt of Pignerol: eaſt longitude 7°, north longitude 44° 45′.

ANGUILLA, in ichthyology, the name by which zoologiſts call the eel. See EEL.

ANGUILLA, in geography, one of the Caribbee-iſlands, ſubject to Great Britain, and ſituated in weſt longitude 63°, and north latitude 18° 15′.

ANGUINEAL, denotes ſomething belonging to or reſembling a ſnake, *anguis*. Hence we ſay, anguineal curve, hyperbola, verſe, *&c.* See the articles CURVE, HYPERBOLA, *&c.*

ANGUINUM OVUM, among antient naturaliſts, a fabulous kind of egg, ſaid to be produced by the ſaliva of a cluſter of ſerpents, and poſſeſſed of certain magical virtues.

ANGUIS, in zoology, a genus of amphibious animals, with a round body, covered over with ſcales, without any ſcuta. This genus comprehends the *vipera*, *cæcilia*, *aſpis*, *natrix*, *caudiſona*, *cobra*, *cenchris*, *hydrus*, and *anguis æſculapii*. See the articles VIPER, CÆCILIA, *&c.*

ANGULAR, in a general ſenſe, denotes ſomething relating to, or that hath angles. See the article ANGLE.

ANGULAR CAPITAL,	See	CAPITAL.
ANGULAR COLUMN,		COLUMN.
ANGULAR MOTION,		MOTION.
ANGULAR NICHE,		NICHE.
ANGULAR SECTION,		SECTION.

ANGUS, a ſhire or county of Scotland, bounded on the north by the ſhire of Merns; on the eaſt, by the german ocean; on the ſouth, by the frith of Tay, which divides it from the ſhire of Fife; and on the weſt, by the ſhire of Perth. This county, which for the moſt part is exceeding fertile, is otherwiſe called Forfarſhire, from its capital Forfar.

ANGUSTICLAVIA, in roman antiquity, a tunica embroidered with little purple ſtuds, according to moſt antiquarians; but Rubennius pretends that it was an oblong band of purple woven in the tunica, reſembling a nail. It was worn by the roman knights, as the laticlavia was by the ſenators.

ANHALT, a province of the circle of upper Saxony, in Germany, lying ſouthward of the dutchy of Magdeburg.

ANHELATIO, or ANHELITUS, among phyſicians, a ſhortneſs of breath which happens to ſound perſons, but eſpecially to valetudinarians, after violent exerciſe. See the article ASTHMA.

ANHIMA, in ornithology, a braſilian bird, reſembling in ſome degree a crane; from which, however, as well as from all other birds, it is diſtinguiſhed by a ſlender horn of a bony ſubſtance, inſerted a little above the origin of its beak; its wings too have each a horn of this kind, growing out of the fore-part of the bone. It is longer than a ſwan, and mottled with black, grey, and white, with a very little yellow in ſome places. See plate XVIII. fig. 3.

ANHINGA, in ornithology, an extremely beautiful water-fowl of the Braſils, about the ſize of our common duck. Its beak is about three fingers breadth long, and has a row of hooked prickles both above and below; its neck is ſlender and long; its head and neck are yellowiſh; the upper part of the back is brown, ſpotted with yellow; and the breaſt, belly, and thighs, are of a ſilvery white. See plate XVIII. fig. 4.

ANIAN, a large maritime country on the eaſtern coaſt of Africa, lying between the equator and 12° north latitude, and between 40° and 50° eaſt longitude.

ANIAN is alſo the name of a ſtrait, ſuppoſed to lie between the north-eaſt of Aſia, and north-weſt of America.

ANJENGO, a ſmall town and factory on the malabar-coaſt, belonging to our eaſt-india company.

ANIMA, among divines and naturaliſts, denotes the ſoul, or principle of life, in animals. See the article SOUL.

ANIMA, in a leſs proper ſenſe, is uſed for the principle of vegetation in plants. See the article VEGETATION.

ANIMA, among chemiſts, denotes the volatile or ſpirituous part of bodies.

ANIMA, among phyſicians, a term ſometimes given to highly refined medicines, or ſuch as are poſſeſſed of an extraordinary virtue. Thus, we read of *anima rhabarbari*, *anima pulmonum*, &c. the former denoting an extract of rhubarb, and the latter ſaffron, on account of its ſup-

poſed

pofed efficacy in diforders of the lungs. Thus alfo,

ANIMA *hepatis*, is a name by which fome call *fal martis*, or falt of iron, on account of its efficacy in difeafes of the liver.

ANIMA *articulorum*, an appellation given to hermodactyls, as being good in diforders of the joints. See the article HERMODACTYLS.

ANIMA *faturni*, a white powder obtained by pouring diftilled vinegar on litharge, of confiderable ufe in enamelling. See the article ENAMEL.

ANIMA *mundi*, i. e. *foul of the univerfe*, is by fome defined to be a certain, pure, ætherial fubftance, which being diffufed through the mafs of the world, informs, actuates, and unites the divers parts of it into one great, perfect, organical body. The *anima mundi* of the modern platonifts, is an ætherial fpirit which exifts pure in the heavens, but pervading elementary bodies on earth, affumes fomething of their nature, and thence becomes of a peculiar kind.

Others define it to be an ignific virtue infufed into the chaos, and diffeminated through the whole frame for the confervation, nutrition, and vivification of it. The *anima mundi* is rejected by moft of the modern philofophers, although many of them fubftitute fomething very much like it. Thus the cartefians have their fubtile matter; fome later philofophers have admitted fire; and others, an elaftic fpirit or medium diffufed through all the parts of fpace.

ANIMADVERSION, in matters of literature, is ufed to fignify, fometimes correction, fometimes remarks, upon a book, &c. and fometimes a ferious confideration upon any point.

ANIMAL, in natural hiftory, an organized and living body, which is alfo endowed with fenfation: thus, minerals are faid to grow or increafe, plants to grow and live, but animals alone to have fenfation.

The defcription, hiftory, and claffing of animals, make not only a confiderable, but the moft excellent part, of natural hiftory, known by the name of zoology. See the article ZOOLOGY.

Different authors have eftablifhed different divifions or families of animals; but the moft natural one feems to be into quadrupeds, birds, fifhes, amphibious animals, infects, and animalcules, vifible only by the help of a microfcope. See the articles QUADRUPED, BIRD, &c.

Generation of ANIMALS. See the article GENERATION.

ANIMALS, in heraldry, are much ufed, both as bearings and fupporters.

It is to be obferved, that in blazoning animals muft be interpreted in the beft fenfe, and fo as to redound to the greateft honour of the bearers. For example, the fox being renowned for wit, and likewife given to filching for his prey; if this be the charge of an efcutcheon, we muft conceive the quality reprefented to be his wit, and not his theft. All beafts muft be figured in their moft noble action; as a lion rampant, a leopard, or wolf paffant, a horfe running or vaulting, a greyhound courfing, a deer tripping, and a lamb going with a fmooth pace. In like manner, every animal muft be moving and looking to the right fide of the fhield, the right foot being placed foremoft. Thefe are the precepts given by Guillim, and yet we find that there are lions paffant, couchant, and dormant, as well as rampant. See the articles RAMPANT, PASSANT, &c.

ANIMAL, ufed adjectively, denotes any thing belonging to, or partaking of, the nature of animals. Thus,

ANIMAL ACTIONS, thofe that are peculiar to animals. Such are fenfation and mufcular motion. See SENSATION, &c.

ANIMAL LIQUORS, a name given to the various fluids found in animal bodies, as blood, lymph, &c.

ANIMAL MOTION, the fame with what is called mufcular motion. See the article MOTION.

ANIMAL SECRETION, the feparation of the feveral juices of the body from the blood. See the article SECRETION.

ANIMAL SPIRITS, a very fine fubtile juice in animal bodies, fuppofed to prefide over the animal actions.

Thofe who maintain the exiftence of animal fpirits, for that is a point not yet determined, imagine them to be feparated in the brain from the fubtileft parts of the blood, and conveyed from thence by the nerves to all parts of the body, for the performance of every animal function. Upon this precarious hypothefis, which, however, is of great antiquity, many elaborate theories have been formed; but anatomifts are fo little agreed, touching the nature of thofe fpirits, that it is by no means fafe to lay any ftrefs upon them, in accounting for diftempers, or inveftigating remedies.

ANIMAL SYSTEM denotes the whole clafs of

of beings endowed with animal life, otherwife called animal kingdom.

Animal oeconomy. See Oeconomy.

Animal oil. See the article Oil.

ANIMALCULE, an animal fo minute in its fize, as not to be the immediate object of our fenfes.

Animalcules are feen only by the affiftance of microfcopes, and are vaftly more numerous than any other part of the animal creation; but the fpecies, on a clofe examination, are found to be extremely few, in proportion to the number of individuals. The moft obvious diftinction among them is, that fome have, and others have not tails; and that fome have, and others have not vifible limbs. According therefore to thefe characters, they are arranged by Dr. Hill under three claffes, diftinguifhed by the names of gymnia, cercaria, arthronia; the firft containing thofe which have no vifible limbs, nor any tail; the fecond, thofe which have tails; the third, thofe which have vifible limbs.

Animalcules are difcovered by the microfcope in moft liquors, as water, wine, vinegar, *&c.* in feveral chalybeat waters, in oats, barley, *&c.* and in the puftules of the itch.

Naturalifts have many fpeculations concerning the origin, the multiplication, and propagation of animalcules; whether, *e. gr.* it be by putrefaction or by copulation, and the ordinary intercourfe of the two fexes; concerning the mechanifm of animalcules, the ftructure of their eyes, their different orders and oeconomy, their number, minutenefs, food, office, ufe, *&c.*

Some will have animalcules the caufe of all difeafes, particularly the itch, the plague, *&c.* Others affign them a nobler ufe, and fuppofe them intended to animate and enliven all nature, to be the principle of life, motion, generation, and the firft ftamina or rudiments of man himfelf. Thus fome have afferted, that the animalcules, found in the male fperm of animals, were the future animals in miniature, and that by thefe generation was performed. See the article Generation of *Animals.*

As to the origin and propagation of animalcules, we find naturalifts extremely at a lofs, and therefore advancing conjectures and hypothefes, each more chimerical than the other. The fyftem of putrefaction folves the difficulty quickly; but the fuppofition is unphilofophical, and contrary to obfervation and analogy. Yet how fuch vaft numbers of animals can be, as it were at pleafure produced, without having recourfe to fomething like equivocal generation, is very difficult to fay! To produce a million of living creatures in a few hours, by only expofing a little water in a window, or by adding to it a few grains of fome feed, or leaves of a plant, feems difficult to believe. We therefore muft fuppofe them to have been pre-exiftent.

Huygens imagines, that the animalcules in pepper or ginger water come thither out of the air, attracted by the fpicy fmell. But can we fuppofe that the effluvia of aromatic bodies, grofs enough to affect our olfactory organs, can produce the like fenfations in creatures many millions of times lefs than us? Ought not the odorous particles which affect them, to be proportional to their own fize? Each corpufcle of the effluvia, *e. gr.* of pepper, may be many degrees bigger than the whole body of one of our animalcules; and inftead of entring its noftrils, muft knock it down, or even bury it under its load.

Harris is rather of opinion, that the eggs of fome exceeding fmall infects, which are very numerous, may have been laid or lodged in the *plicæ* or *rugæ* of the coats of the grain, by fome kinds that inhabit thofe feeds, as their proper places. For that infects of the larger kinds do frequently thus depofite their eggs, on the flowers and leaves of plants, is often experimented; and it is probable that the fmaller or microfcopical infects do the fame. Now thefe being wafhed out of the feeds by their immerfion in water, may rife to the furface, and there be hatched into thefe animals which we fee fo plentifully to abound there. Or, the furface of the water may arreft the ftraggling eggs of fome microfcopical infects, which before floated in the air, and being prepared for this purpofe by the infufion of proper grain, or a due degree of heat, may compofe fo proper a nidus for them, that by the fun's warmth they may eafily be hatched into living creatures, which may afterwards turn into flies of the fame fpecies with the animal parent.

But this is not enough, M. Malezieu has difcovered fome animalcules to be viviparous, and others oviparous. And Lewenhoeck and others pretend to have feen them in the very act of copulation. Others affure us they have feen eggs in the

the bodies of some animalcules which are transparent; and that in others, eggs have appeared placed on the outside of the body; from which M. Malezieu and M. Tobelot have observed young ones to issue alive, of the same kind and form with their sires and dams.

Indeed, considering the great variety of species of animalcules, it is not probable they should all propagate in the same manner. Mr. Harris observed a sort of green belts on some that were found in the scum of puddle water; and on further observation found these belts composed of globules, so like the roes or spawn of fishes, that he could not but fancy they served for the same use. After April he found many of them without any thing of the green belt; others with it very much, and that unequally, diminished, and the water filled with a vast number of small animals, which before he saw not there, and which he now looked on as the young animated fry, which the old ones had shed.

With regard to their structure and œconomy, animalcules are found of divers sorts; some formed like fishes, others reptile, others hexapedal; some horned, &c. In several kinds, however small, 'tis easy to discover the form of their mouths, their proboscides, horns, &c. the motions of their hearts, lungs, and other parts. In some of the animalcules observed by Lewenhoeck, he computed that three or four hundred of the smallest, placed contiguous to each other in a line, would only equal the diameter of an ordinary grain of sand. Now multiply 300 cubically, and the produce is 27,000,000 of animals, equal to one grain of sand, so that a cubical inch would contain 13,824,000,000,000, or almost 14 millions of millions.

The contemplation of animalcules has made the ideas of infinitely small bodies extremely familiar to us. A mite was antiently thought the limit of littleness; but we are not now surprized to be told of animals twenty-seven millions of times smaller than a mite. For such is the enormously little size of a kind of microscopical animalcule observed by M. Malezieu, as he proves by a geometrical calculation of the augmentation which his glass makes. Hartsoeker has carried the matter farther. If the system of generation be true, which supposes that all animals were formed from the beginning of the world, and inclosed one within another, and all of them in the first animals of each species, how minute must the animalcules now produced have been at the beginning! It appears by calculation, that the spawn of the first fish must have been to that of the last, as unity followed by thirty or forty thousand cyphers, is to unity.

Naturalists suppose another species or order of invisible animalcules, *viz.* such as escape the cognizance even of the best microscopes, and give many probable conjectures in relation to them. Reason and analogy give some support to the existence of infinite imperceptible animalcules. The naked eye, say some, takes in from the elephant to the mite; but there commences a new order reserved only for the microscope, which comprehends all these from the mite, to those twenty-seven millions of times smaller; and this order cannot be yet said to be exhausted, if the microscope be not arrived at its last perfection: and when it is arrived there, shall we then have attained the whole system of animals? It is nowise probable that the limits of nature should coincide exactly with the limits of our eye-sight, when assisted by the microscope. Who knows, says another, but the smallest and most imperceptible animals themselves have others less bred and nourished by them, and which bear the same proportion to them, that those bear to the animals they are produced on.

ANIMATED, or ANIMATE, in a general sense, denotes something endowed with animal life. See ANIMAL.

ANIMATED also imports a thing to be impregnated with vermin, or animalcules; in which sense, all terrestrial bodies whatever may be said to be animated. See the article ANIMALCULE.

ANIMATED MERCURY, a term used by Mr. Boyle to denote mercury which being impregnated with spirituous particles, may grow hot when mingled with gold.

ANIMATED NEEDLE, is one touched with a loadstone. See NEEDLE and MAGNET.

ANIMATED POWER, in mechanics, denotes a man, or other animal, in opposition to weights, &c.

ANIMATION signifies the informing an animal body with a soul. Thus the fœtus in the womb is said to come to its animation, when it begins to act like a true animal, or after the female, that bears it, is quick. See the article FOETUS.

ANIMATION is also used figuratively, for the

the act of giving life and energy to a discourse.

ANIME, or GUM ANIMÆ, in natural history and pharmacy, a kind of gum, or rather resin, being a friable substance, inflammable, and soluble in oil. There are two kinds, the oriental and occidental: the oriental is a dry resin, brought in large casks, and of a very uncertain colour, some being greenish, some reddish, and some of the colour of myrrh.

The occidental is a yellowish white, resembling frankincense in colour. Both kinds are used in perfumes; and in medicine externally, for cold flatulent affections of the head, nerves, and joints; palsies, contractions, contusions, &c.

ANIMÉ, in heraldry, a term used when the eyes of any rapacious creature are borne of a different tincture from the creature itself. We also say, incensed of such or such a tincture.

ANIMI DILIQUIUM, fainting, or swooning, in medicine. See the articles LIPOTHYMIA and SWOONING.

ANINGA, in commerce, a root which grows in the Antilles islands, and is pretty much like the china plant. It is used by sugar bakers, for refining the sugar, and is more effectual and less dangerous than the sublimate of mercury and arsenic.

ANJOU, a county, or rather earldom of France, bounded by the province of Maine on the north, by Tourain on the east, by Poictou on the south, and by Britany on the west.

ANISCALPTOR, in anatomy, a name by which some call the *latissimus dorsi.* See the article LATISSIMUS.

ANISE, *anisum*, in the materia medica, a small seed, of an oblong shape, ending each way in an obtuse point, with a surface very deeply striated, and of a lax and brittle substance.

The plant which produces it is a species of the cuminum of Linnæus. See the article CUMINUM.

The best seed is what is fresh, full, free from mouldiness, and has a very strong smell. It is of a hot nature, good to expel wind out of the bowels and stomach, and is used by the confectioners in sugar-plums, of various denominations. There is extracted by distillation from anise-seed, an oil, which, as well as that expressed from it when bruised, answers all the purposes of the seed itself; and during the distillation, there comes off a water called anise-seed water, which is a celebrated cordial and carminative.

ANKER, a liquid-measure at Amsterdam. It contains about thirty two gallons english measure.

ANNA, in geography, a city of Arabia Petrea, situated on the western shore of the river Euphrates, in 41°. 35′ of east longit. and 33° 30′ north lat.

ANNALS, *annales*, in matters of literature, a species of history, which relates events in the chronological order wherein they happened. They differ from perfect history in this, that annals are a bare relation of what passes every year, as a journal is of what passes every day; whereas history relates not only the transactions themselves, but also the causes, motives, and springs of actions. Annals require nothing but brevity, history demands ornament. Cicero informs us of the origin of annals: to preserve the memory of events, the *pontifex maximus*, says he, wrote what passed each year, and exposed it on tablets in his own house, where every one was at liberty to read: this they called *annales maximi*; and hence the writers who imitated this simple method of narrating facts were called *annalists.*

ANNAMABOE, an english factory on the gold-coast, in Guinea, in Africa.

ANNAND, the capital of the shire of Annandale, in Scotland, situated upon a river of the same name, in 3° west longit. and 54° 40′ north latitude.

ANNAPOLIS, the capital of Maryland, a british colony in north America, in 78° west longit. and 39° 25′ north lat.

ANNATES, among ecclesiastical writers, a year's income of a spiritual living.

These were, in antient times, given to the pope throughout all christendom, upon the decease of any bishop, abbot, or parish-clerk, and were paid by his successor. In England, the pope claimed them first of such foreigners as he conferred benefices upon, by way of provision; but afterwards they were demanded of all other clerks on their admission to benefices. At the reformation they were taken from the pope, and vested in the king; and finally, queen Anne restored them to the church, by appropriating them to the augmentation of poor livings.

ANNEALING, or NEALING, the burning or baking glass, earthen-ware, &c. in an oven or furnace.

ANNEALING *of glass*, ⎫ ⎧ GLASS.
ANNEALING *of iron*, ⎬ See ⎨ IRON.
ANNEALING *of steel*, ⎭ ⎩ STEEL.

ANNECY, a town of the duchy of Savoy, situated

situated upon a lake of the same name, subject to the king of Sardinia; in 6° 10′ east longitude, and 46° north latitude.

ANNEXATION, in law, a term used to imply the uniting of lands or rents to the crown.

ANNIHILATION, the act of reducing any created being into nothing.

Annihilation stands opposed to creation, and both are the works of omnipotence; for bodies naturally admit of changes and alterations in their forms, but not of annihilation.

It is objected against this notion of annihilation, that it requires an act; whereas, according to the opinion of some philosophers, annihilation must ensue upon God's merely ceasing to act.

Annihilation, in a moral sense, is sometimes used: thus, the capital of the south-sea is reduced to one half; and unless great care be taken, the male-practices of brokers will soon render another annihilation necessary.

ANNIS COMMUNIBUS. See the article COMMUNIBUS ANNIS.

ANNIVERSARY, the annual return of any remarkable day.

Anniversary days, in old times, more particularly denoted those days in which an office was performed for the souls of the deceased, or the martyrdom of the saints was celebrated in the church.

ANNO DOMINI, *i. e.* the year of our lord, the computation or time from our saviour's incarnation. The english is now inserted in the dates of all our deeds.

ANNOISANCE, in law, the same with nusance. See the article NUSANCE.

ANNOMINATION, in rhetoric, the same with what is otherwise called *paronomasia*. See the article PARONOMASIA.

ANNONA, in roman antiquity, denotes provision for a year of all sorts, as of flesh, wine, *&c.* but especially of corn.

Annona is likewise the allowance of oil, salt, bread, flesh, corn, wine, hay, and straw, which was annually provided by contractors for the maintenance of an army.

ANNONÆ PRÆFECTUS, in antiquity, an extraordinary magistrate, whose business it was to prevent a scarcity of provision, and to regulate the weight and fineness of bread.

ANNOTATION, in matters of literature, a brief commentary, or remark upon a book or writing, in order to clear up some passage, or draw some conclusion from it: thus the critics of the last age have made learned annotations upon all the classics.

ANNOTATION, among physicians, the beginning of a febrile paroxysm, when the patients used to shiver, to yawn, stretch, and be drowsy.

Annotation is also proper to hectic fevers, and happens when the patient, an hour or two after eating, feels an increase of heat, with a swifter pulse, but without any of the forementioned symptoms.

ANNUAL, in a general sense, an appellation given to whatever returns every year, or is always performed within that space of time: thus we say, the annual motion of the earth, annual plants, *&c.* See the article EARTH, *&c.*

ANNUAL EQUATION, in astronomy. See the article EQUATION.

ANNUAL, or ANNUEL, in the scottish law, any yearly revenue, or rent, payable at the two great terms, Whitsuntide and Martinmas.

ANNUITY, a yearly income arising from money, *&c.* and either paid for a term of years, or upon a life.

Annuities are said to be in arrears, when they are due either yearly or half yearly, and are unpaid for any number of payments. If, therefore, the amount of annuities in arrear, at simple interest, be wanted, let a be the annuity, r the rate of one pound *per annum*, m the amount thereof, and n the number of years; then a being the first year's amount, $a + 1\,ar$ will be the amount of the second year, $a + 2ar$ of the third, and $a + \overline{n-1} \times ar$ will be the n year's amount: wherefore m, the sum of those amounts, will be equal to $na + \frac{nn-n}{2}ar$. So that when any of these four quantities $m\,n\,a\,r$ are given, the value of the fourth may be easily found, as in the following table:

Probl.	given	required.	Solution.
1	$a\ n\ r$	m	$= na + \frac{nn-n}{2} \times ar$
2	$m\ n\ r$	a	$= \frac{2m}{\overline{2+nr-r} \times n}$
3	$n\ n\ a$	r	$= \frac{\overline{m-na} \times 2}{\overline{n-1} \times na}$
4	$m\ r\ a$	n	$= \frac{z + \overline{zz+8mr}\|^{\frac{1}{2}}}{2ra}$

Supposing $2a - ra = z$

But if the interest be compound, and $x =$

$x = 1 + r$ be equal to the principal and intereſt of one pound, at any given rate, then any three of the four quantities $a\,m\,n\,x$ being given, the fourth will be found as under :

Probl.	given	required.	Solution.
1	$a\,x\,n$	m	$= \frac{\overline{xn - 1} \times a}{x - 1}$
2	$m\,x\,n$	a	$= \frac{\overline{x - 1} \times m}{x^n - 1}$
3	$m\,x\,a$	n	$= \frac{L\,\overline{x - 1 \times m + a} - La}{Lx}$
4	$m\,a\,n$	x	$= -x^n + \frac{m}{a}x = \frac{m - a}{a}$

L being the logarithm of $x - 1$ and a.

If the diſcount in buying and ſelling annuities at ſimple intereſt be wanted : then ſince the amount of one pound for any time is to one pound as the amount of an annuity is to its preſent value, that is, as $1 + nr : 1 :: na + \frac{un - n}{2}ar :$ $\frac{na + \frac{1}{2}\overline{nn - n} \times ar}{1 + nr} = s$. Therefore,

$$a = \frac{\overline{2 + 2nr} \times s}{\overline{2 + nr - r} \times n}$$

$$r = \frac{\overline{na - s} \times 2}{\overline{2s - an + a} \times n}$$; and ſuppoſing $2sr + ra - 2a = z$.

$$n = \frac{z + \overline{zz + 8sar}}{2ra}$$

But when it is compound intereſt :

s will be equal $\overline{a - \frac{a}{x^n}} \div \overline{x - 1}$

$$x^n$$

$$a = \frac{x^n \times \overline{x - 1} \times s}{x^n - 1}$$

$$n = \frac{La - + \overline{La + s - sx}}{Lx}$$

$x = \frac{a}{s}$. And if n be ſuppoſed to be infinite, a being the annual rent, s will be equal to $sx - a$. If then it is required to find how many years purchaſe, at compound intereſt, any annuity is worth, n will be equal to $\frac{1}{x - 1}$, and $x = \frac{n - 1}{n}$.

As to the doctrine of annuities upon lives, founded upon bills of mortality, ſee Dr. Halley's Diſcourſe in the Philoſophical Tranſactions, De Moivre's treatiſe, and the article LIFE.

There are ſeveral differences in law between an annuity and a rent ; every rent is iſſuing out of lands, but an annuity charges only the granter, his heirs, &c. alſo no action lies for an annuity but the writ of annuity ; but for the recovery of rent, the ſame remedy lies as for lands.

ANNULAR, in a general ſenſe, ſomething in the form of, or reſembling, a ring. Hence,

ANNULAR, in anatomy, is an appellation given to ſeveral parts of the body : thus, the annular cartilage is the ſecond cartilage of the larynx ; annular ligament, that which encompaſſes the wriſt, and binds the bones of the arm together ; annular proceſs, or protuberance, a part of the medulla oblongata. See the articles CARTILAGE, LIGAMENT, &c.

ANNULAR is alſo a peculiar denomination of the fourth finger commonly called the ring-finger.

ANNULET, in architecture, a ſmall ſquare member in the doric capital, under the quarter-round.

Annulet is alſo a narrow flat moulding, which is common to divers places of the columns, as in the baſes, capitals, &c. It is the ſame member which Vitruvius calls a fillet ; Palladio, a liſtel or cincture ; Scamozzi and Mr. Brown, a ſupercilium, liſt, tinea, eye-brow, ſquare, and rabbit.

ANNULET, in heraldry, a mark of diſtinction which the fifth brother of a family ought to bear in his coat of arms.

The hieroglyphic of the annulet is very various : ſome of the antients uſed it to denote ſervitude ; the romans repreſented by it liberty and nobility. It is an emblem of ſecrecy, if it have a ſeal ; and of love, if the cypher, the face, or the arms of the perſon beloved are engraved upon it.

ANNULLING, a term ſometimes uſed for cancelling, or making void, a deed, ſentence, or the like.

ANNUNCIADA, ANNUNTIADA, or ANNUNTIATA, an order of knighthood in Savoy, firſt inſtituted by Amadeus I. in the year 1409 ; their collar was of fifteen links,

links, interwoven one with another, in form of a true lover's knot, and the motto F. E. R. T. fignifying *fortitudo ejus Rhodum tenuit*. Amadeus VIII. gave the name annunciada to this order, which was formerly known by that of the knot of love, changing, at the fame time, the image of St. Maurice, patron of Savoy, which hung at the collar, for that of the Virgin Mary; and inftead of the motto abovementioned, fubftituting the words of the angel's falutation.

ANNUNCIADA is alfo the title of feveral religious orders, inftituted at different times, and at different places, in honour of the annunciation. See the next article.

ANNUNCIATION, the tidings brought by the angel Gabriel to the Virgin Mary, of the incarnation of Chrift.

Annunciation is alfo a feftival, kept by the church on the 25th of March, in commemoration of thefe tidings: it is of very great antiquity.

In the romifh church, on this feaft the pope performs the ceremony of marrying or cloyftering a certain number of maidens, who are prefented to him in the church della Minerva, cloathed in white ferge, and muffled up from head to foot: an officer ftands by, with purfes containing notes of fifty crowns for thofe who make choice of marriage, and notes of an hundred for thofe who choofe the veil.

Annunciation is likewife a title given by the Jews to part of the ceremony of their paffover.

ANODYNE, in pharmacy, a term applied to medicines which mitigate pain.

Anodynes are of two kinds; the firft proper, called alfo paregorics; the fecond improper, becaufe they rather ftupify than alleviate, and are known by the name of hypnotics and narcotics. See the article HYPNOTICS, &c.

Among anodynes may be reckoned all relaxing remedies, diluters, and medicines, which, by any means, deftroy acrimony, or expel wind, together with the compound medicines of the fhops, which pafs under this name; fuch is the anodyne balfam made of caftile foap, opium, camphire, faffron, and fpirit of wine, accounted excellent in allaying the tortures of the gout, and in obftructions of the urinary paffages.

ANOMALISTICAL-YEAR, in aftronomy, the time that the earth takes to pafs through her orbit; it is alfo called the periodical year.

The fpace of time belonging to this year is greater than the tropical year, on account of the preceffion of the equinoxes. See the article PRECESSION.

ANOMALOUS, in a general fenfe, is applied to whatever is irregular, or deviates from the rule obferved by other things of the like nature.

ANOMALOUS VERBS, in grammar, fuch as are not conjugated conformably to the paradigm of their conjugation: they are found in all languages; in latin the verb *lego* is the paradigm of the third conjugation, and runs thus; *lego*, *legis*, *legit*; by the fame rule it fhould be *fero*, *feris*, *ferit*, but we fay *fero*, *fers*; *fert*; *fero* then is an anomalous verb. In englifh the irregularity relates often to the preter tenfe, and paffive participle; for example, *give*, were it formed according to rule, would make *gived* in the preter tenfe, and paffive participle; whereas, in the former, it makes *gave*, and in the latter *given*.

ANOMALY, in grammar, that quality in words which renders them anomalous. See the preceding article.

ANOMALY, in aftronomy, an irregularity in the motion of the planets, whereby they deviate from the aphelion or apogee; which inequality is either mean, excentric, or coequate and true.

Mean ANOMALY, in the old aftronomy, is the diftance of a planet from the line of the apfes, according to its mean motion: thus, if E S D (plate XIX. fig. 1. n°. 1.) be the fun's orbit, A M N B the ecliptic, the earth at T, the fun at S, and A B the line of the nodes; then is the angle A T M, or the arch A M, the fun's mean anomaly.

But, in the new aftronomy, where a planet, at P, defcribes an elipfis A P B A (ibid. n°. 2.) about the fun, fituated in the focus S, the mean anomaly is the arch, or angle, or trilinear area A S P, contained under the line of the apfes A B (*viz.* the tranfverfe axis) and the line S P, which is proportional to the time. Again, drawing Q P H perpendicular to A B, and S F perpendicular to the radius Q C, continued, the mean anomaly will be reprefented by the trilinear circular area A Q S, or by the arch A Q + S F; as is demonftrated by aftronomers.

Excentric ANOMALY, in the new aftronomy, is an arch A Q of the excentric circle A Q B, terminated by A B, and by the line Q H, drawn through the centre

centre of the planet P, perpendicular to A B.

Coequate or true ANOMALY is the distance of the sun from its *apogæum*, or of a planet from its *aphelium*, where it is seen from the sun; that is, it is the angle A S P at the sun, under which the planet's distance from the *aphelium* appears. For a farther account of anomaly, consult Gregory, Keil, *&c.*

ANOMOEANS, in church-history, antient heretics, who asserted, that the Son was of a nature different from, and in nothing like to, that of the Father. This was the name by which the pure arians were distinguished, in contradistinction to the semi-arians, who acknowledged a likeness of nature in the Son, at the same time that they denied, with the pure arians, the consubstantiality of the word. The semi-arians condemned the anomœans in the council of Seleucia; and the anomœans in their turn condemned the semi-arians in the council of Constantinople.

ANOMORHOMBOIDIA, in natural history, a genus of crystalline spars, of no determinate form, easily fissile, but cleaving more readily in an horizontal than in a perpendicular direction, their plates being composed of irregular arrangements of short and thick rhomboidal concretions. See the article SPAR.

ANONA, in botany, a genus of plants, belonging to the *polyandria-polygynia* class of Linnæus: the perianthium is composed of three cordated, hollowed, and acuminated leaves: the corolla consists of six cordated sessile petals, three alternately interior and smaller: the stamina are scarce visible, but the antheræ are numerous: the fruit is a large berry, of an oval figure, covered with a squamose punctuated bark: the seeds are numerous, hard, of an oblong figure, and are placed circularly.

ANONIS, REST-HARROW, in botany, the name of Tournefort, for the Ononis of Linnæus. See the article ONONIS, and plate XVIII. fig. 5.

ANONYMOUS, something that is nameless, or of which the name is concealed. It is a term usually applied to books which do not express the author's name, or to authors whose names are unknown.

ANONYMOUS, in anatomy, an appellation given to parts newly discovered, and consequently without any proper names: thus the annular cartilage of the throat, known at present by the name *cricoides*, was formerly called anonymous.

ANOREXY, in medicine, a loathing of meat, or want of appetite.

An anorexy is occasioned either from an ill disposition of the stomach, or a redundancy of humours. The cure is different, according to the cause, both which are treated of under the article NAUSEA.

ANOUT, a small island in the Schager-rack, or that part of the sea of Denmark which has Norway on the north, Jutland on the west, Sweden on the east, and the isle of Zealand on the south; it lies in 13° east longit. and 56° 36′ north lat.

ANSÆ, in astronomy, the parts of saturn's ring, which are to be seen on each side of the planet, when viewed through a telescope, and the ring appears somewhat open. They are so called because they are like handles to the body of the planet. See the article SATURN.

ANSE, a small town of France, in the Lyonnois, four leagues north of Lyons.

ANSEL-WEIGHT, the same with auncel-weight. See the article AUNCEL.

ANSER, in the linnæan system of zoology, an order of birds, distinguished by having their beaks dentated in the manner of a saw, and the feet formed for swimming. Of this order we have the following genera, *viz.* 1. The pelican. 2. The anas, or duck-kind. 3. The mergus. 4. The alca. 5. The colymbus, or diver-kind. 6. The larus, or gull-kind, *&c.* See the articles PELICAN, ANAS, *&c.*

Anser is, more particularly, used for the common goose. See the article GOOSE.

ANSER, in astronomy, a star of the fifth or sixth magnitude, in the milky-way, between the swan and eagle.

ANSES, in astronomy, the same with *ansæ*. See the article ANSÆ.

ANSLO, a sea-port town of Norway, and province of Aggerhuys, situated in 10°. 12′ east long. and 59° 30′ north lat.

ANSPACH, or OHNSPACH, a city of Germany, and circle of Franconia, situated in 10° 36′ east longitude, and 49° 22′ north latitude.

It is the capital of the marquisate of Anspach, of which family was the late queen Caroline.

ANSPESSADES, in the French armies, a kind of inferior officer in the foot, below the corporals, but above the common centinels. There are usually four or five of them in a company.

ANSTRUTHER EASTER and WESTER, two

two royal burghs of Scotland, ſituated on the ſouth-eaſt coaſt of the county of Fife, in 2° 25′ weſt longitude, and 56° 20′ north latitude.

ANSWER, the reply made to a queſtion. To anſwer for a man, in a commercial ſenſe, ſignifies to be his ſurety.

ANSWER, in law. See REJOINDER.

ANT, *formica*, in zoology, a well known inſect, much celebrated for its induſtry and œconomy.

The ant makes a diſtinct genus of inſects, of the order of the *hymenoptera*, or thoſe with membranaceous wings; and is diſtinguiſhed from the other genera of this order, by having an erect ſquama, or ſcaly body, placed between the thorax and abdomen.

Ants are all furniſhed with four wings, excepting the mules, as they are called, or thoſe of no ſex, which have none at all. Of this genus we have the following ſpecies in England: 1. A ſmall blackiſh ant. 2. A ſmall reddiſh brown ant. 3. A middle-ſized black ant. 4. A middle-ſized reddiſh ant. 5. The great ant, or horſe ant, alſo known by the name of *hippomyrmex*.

ANT-BEAR, in zoology. See the article MYRMECOPHAGA.

ANTA, in the antient architecture, a ſquare pilaſter, placed at the corners of buildings.

Anta is uſed by M. Le Clerc for a kind of ſhaft of a pillar, without baſe or capital, and even without any moulding.

ANTAGONIST, *antagoniſta*, denotes an adverſary, eſpecially in ſpeaking of combats and games.

ANTAGONIST MUSCLES, in anatomy, thoſe which have oppoſite functions, as flexors and extenſors, abductors, and adductors, *&c.*

ANATANACLASIS, in rhetoric, a figure which repeats the ſame word, but in a different ſenſe, as, *dum vivimus, vivamus.*

ANTARCTIC, in a general ſenſe, denotes ſomething oppoſite to the arctic, or northern pole. Hence

Antarctic circle, in geography and aſtronomy, is one of the leſſer circles of the ſphere, and diſtant only 23° 30′ from the ſouth pole, which is likewiſe called antarctic, for the ſame reaſon.

ANTARES, a ſtar of the firſt magnitude, otherwiſe called the ſcorpion's heart. See the article SCORPION.

ANTE', in heraldry, denotes that the pieces are let into one another in ſuch form as is there expreſſed, as, for inſtance, by dove-tails, rounds, ſwallows tails, or the like.

ANTEAMBULONES, in roman antiquity, ſervants who went before perſons of diſtinction, to clear the way before them. They uſed this formula, *Date locum domino meo*; *i. e.* make room, or way, for my maſter.

ANTECEDENT, in general, ſomething that goes before another, either in order of time or place.

ANTECEDENT DECREE, among ſchoolmen, is a decree preceding ſome other decree, or ſome action of man, or the previſion of that action. It is much diſputed, whether predeſtination be a decree antecedent or ſubſequent to faith.

Antecedent will, or deſire, is that which in God precedes another will or deſire, or ſome knowledge or previſion. But it is to be remarked, that theſe terms are applied to God only in reſpect to the order of nature, and not to an order of ſucceſſion.

ANTECEDENT, in grammar, the word to which a relative refers: thus, *God whom we adore*, the word *God* is the antecedent to the relative *whom.*

ANTECEDENT, in logic, is the firſt of the two propoſitions in an enthymema. See the article ENTHYMEME.

ANTECEDENT, in mathematics, is the firſt of two terms of a ratio, or that which is compared with the other, as in the ratio of 2 to 3, or a to b, 2 and a are each antecedents.

ANTECEDENT SIGNS, in medicine, ſuch as are obſerved before a diſtemper is ſo formed as to be reducible to any particular claſs, as a bad diſpoſition of the blood, which precedes an infinite number of diſeaſes.

ANTECEDENT TERM, in mathematics, the firſt one of any ratio: thus, if the ratio be $a : b$, a is the antecedent term.

ANTECEDENCE, *antecedentia*, in aſtronomy, an apparent motion of a planet towards the weſt, or contrary to the order of the ſigns, *viz.* from taurus towards aries, *&c.*

ANTECEDENCY, or ANTECEDENCE, in a general ſenſe, denotes the property or prerogative of being antecedent. See the article ANTECEDENT.

ANTECESSOR, one that goes before. It was an appellation given to thoſe who excelled in any ſcience; Juſtinian applied it

it particularly to professors of civil law; and in the universities of France, the teachers of law take the title *antecessores* in all their theses.

ANTECHAMBER, or ANTICHAMBER. See the article ANTICHAMBER.

ANTECHRIST. See the article ANTICHRIST.

ANTECURSORES, in the roman armies, a party of horse detached before, partly to get intelligence, provisions, &c. and partly to chuse a proper place to encamp in. These were otherwise called *antecessores*, and by the Greeks *prodromi*.

ANTEDATE, among lawyers, a spurious or false date, prior to the true date of a bond, bill, or the like. See DATE.

ANTEDILUVIAN, whatever existed before Noah's flood: thus, the generations from Adam to Noah are called the antediluvians. There are great disputes among philosophers about the form, constitution, figure, and situation of the antediluvian earth. Dr. Burnet contends that it was only a hollow crust, with an uniform equable surface, without mountains and without seas, and in all respects different from what we now find it to be. Dr. Woodward undertakes to prove that its appearance was the same as at present; that it had the same position in respect of the sun, and consequently the same vicissitudes of seasons: and Mr. Whiston imagines, that the chaos, of which our earth was formed, had been the atmosphere of a comet; that the annual motion of the earth began as soon as it assumed a new form; but that the diurnal motion did not take place till the fall of Adam; that before the deluge the year began at the autumnal equinox; that the orbit of the earth was a perfect circle; and that the solar and lunar years were the same, each consisting of just three hundred and sixty days. The state of the antediluvian philosophy has likewise been the subject of much debate among authors.

ANTEGO, one of the Caribbee islands, in the Atlantic or American ocean, situated in 61° 30′ west longitude, and 17° 30′ north latitude. It is about twenty miles long, and as many broad.

ANTEJURAMENTUM, by our ancestors called *juramentum calumniæ*, an oath which antiently both accuser and accused were to take before any trial or purgation. The accuser was to swear that he would prosecute the criminal; and the accused to make oath, on the day he was to undergo the ordeal, that he was innocent of the crime charged against him.

ANTELOPE, in zoology, a species of goat, otherwise called *gazella*. See the article GAZELLA.

ANTENCLEMA, in rhetoric, called by the Latins *relatio*, is when the fault is imputed upon any misfortune happening, to the person to whom it happened: thus, Orestes blamed his mother, Horatius his sister, and Milo blamed Clodius.

ANTENNÆ, in the history of insects, slender bodies with which nature has furnished the heads of these creatures; being the same with what in english are called horns, or feelers. See HORN.

ANTEPAGMENTA, in the antient architecture, the jambs of a door. They are also ornaments, or garnishings, in carved work, of men, animals, &c. made either of wood or stone, and set on the architrave.

ANTEPENULTIMA, in grammar, the third syllable of a word from the end, or the last syllable but two. The Greeks put the acute accent upon the antepenultima; and the Latins, when the penultima is to be pronounced short, put it upon the antepenultima, as in the word *dominus*.

ANTEPREDICAMENTS, among logicians, certain preliminary questions, which illustrate the doctrine of predicaments and categories. They are so called because Aristotle has placed them before the predicaments, in order to treat that subject afterwards without interruption.

ANTEQUIERA, a town of Granada, in Spain; situated in west longitude 4°. 40′. and north latitude 36°. 40′. about twenty-five miles north of Malaga.

ANTERIOR, or ANTERIOUR, denotes something placed before another, either with respect to time or place.

ANTESIGNANI, in the roman armies, soldiers placed before the standards, in order to defend them, according to Lipsius; but Cæsar and Livy mention the antesignani as the first line, or first body, of heavy-armed troops. The velites, who used to skirmish before the army, were likewise called antesignani.

ANTESTATURE, in fortification, a small retrenchment made of palisadoes, or sacks of earth, with a view to dispute with an enemy the remainder of a piece of ground. This term is grown obsolete.

lete. See the article RETRENCHMENT.

ANTHELIX, in anatomy, the inward protuberance of the external ear, being a femicircle within, and almoft parallel to the helix. See the article HELIX.

ANTHELMINTICS, among phyficians, medicines proper to deftroy worms. See the article WORMS.

ANTHEM, a church-fong performed in cathedral fervice by chorifters, who fung alternately. It was ufed to denote both pfalms and hymns, when performed in this manner. But at prefent, anthem is ufed in a more confined fenfe, being applied to certain paffages taken out of the fcriptures, and adapted to a particular folemnity.

ANTHEMIS, in botany, the name ufed by Linnæus for the chamæmile of other writers. See the article CHAMÆMILE.

This is alfo the name by which fome writers call the buphthalmum or ox-eye. See the article BUPHTHALMUM.

ANTHERÆ, among botanifts, denote the little roundifh or oblong bodies, on the tops of the ftamina of plants. See the article STAMINA.

The anthera is the principal part of the male organ of generation in plants, anfwering to the *glans penis* in animals. It is tumid and hollow, containing a fine powder called *farina fœcundans*. See PLANT, GENERATION, FARINA.

ANTHERICUM, in botany, the name by which Linnæus calls the phalangium of Tournefort. See PHALANGIUM.

ANTHESPHORIA, in antiquity, a ficilian feftival, inftituted in honour of Proferpine. Another folemnity of this kind feems to have been obferved at Argos, in honour of Juno.

ANTHESTERIA, in grecian antiquity, feftivals celebrated in the fpring by the antient Athenians, in honour of Bacchus, during which the mafters feafted their flaves, as the Romans did in the time of the Saturnalia. See SATURNALIA.

It was ufual, during thefe feafts, to ride in chariots, and pafs jefts upon all that paffed by.

ANTHESTERION, in antient chronology, the fixth month of the athenian year, anfwering to the latter part of our November, and beginning of December.

ANTHOCEROS, in botany, a genus of moffes, without any flower-petals or ftamina; inftead of which there is a fingle, very long and fubulated anthera, fpringing from the bafe of the cup. The female flower is fometimes found on the fame plant with this anthera; and fometimes on a different one. It is monophyllous, divided into fix patent fegments, and commonly contains three roundifh feeds lodged in its bottom.

ANTHOLOGION, the title of the fervice book ufed in the greek church.

It is divided into twelve months, containing the offices fung throughout the year, on the feftivals of our faviour, the virgin, and other remarkable faints.

ANTHOLOGY, ἀνθολογία, a difcourfe of flowers, or of beautiful paffages from any authors.

ANTHOLOGY is alfo the name given to a collection of epigrams taken from feveral greek poets.

ANTHOLYZA, in the linnæan fyftem of botany, makes a diftinct genus of plants, the flower of which confifts of one tubular petal; and its fruit is a roundifh capfule, confifting of three valves, and divided into three cells, containing a number of triangular feeds.

This genus belongs to the *triandria monogynia* clafs, and is comprehended among the gladioli by other botanifts.

ANTHONY, or *Knights of St.* ANTHONY, a military order, inftituted by Albert duke of Bavaria, Holland, and Zealand, when he defigned to make war againft the Turks in 1382. The knights wore a collar of gold made in form of a hermit's girdle, from which hung a ftick cut like a crutch, with a little bell, as they are reprefented in St. Anthony's pictures.

St. ANTHONY'S FIRE, a name fometimes given to the eryfipelas. See ERYSIPELAS.

ANTHORISMUS, in rhetoric, denotes a contrary defcription or definition of a thing, from that given by the adverfe party.

ANTHOSPERMUM, in botany, a genus of plants, by Pontedera called *tournefortia*, and belonging to the *polygamia dioecia* clafs of Linnæus.

It is male and female, in different plants, and fome are hermaphrodites. The androgynous flower is of one leaf, with two piftils and four ftamina, with the germen below the flower. The male flowers are the fame with thefe, wanting only the piftils and germen. The female flowers have the piftils and germen, but want the ftamina. Pontedera defcribes the fruit to be roundifh, and full of corners, having eight oblong feeds, lying two and two together.

ANTHOXANTHUM, in botany, a genus of plants, the flower of which is a bivalve glume.

glume. The ſtamina are two capillary filaments. The glume of the flower adheres afterwards to the ſeed which is ſingle, roundiſh, and pointed at each end.

This genus belongs to the *diandria digynia* claſs of Linnæus, and is the ſame with that which Mr. Ray calls *gramen vernum, ſpica brevi laxa.* It is the only graſs, ſo far as is yet known, which has only two ſtamina.

ANTHRACOSIS, ανθρακωσις, in medicine, a corroſive ſcaly ulcer, either on the bulb of the eye or the eye-lids.

ANTHRAX, ανθραξ, a greek term literally ſignifying a burning coal, uſed by the antients to denote a gem, as well as a diſeaſe, more generally known by the name of carbuncle. See CARBUNCLE.

Anthrax, is ſometimes alſo uſed for lithanthrax, or pit-coal. See the article LITHANTHRAX.

ANTHROPOGRAPHY, ανθρωπογραφια, denotes the deſcription of the human body, its parts, ſtructure, &c.

ANTHROPOLATRÆ, ανθρωπολατραι, in church hiſtory, an appellation given to the Neſtorians, on account of their worſhipping Chriſt, notwithſtanding that they believed him to be a mere man.

ANTHROPOLATRIA, the paying divine honours to a man, ſuppoſed to be the moſt antient kind of idolatry. See the article IDOLATRY.

ANTHROPOLOGY, ανθρωπολογια, a diſcourſe upon human nature. Thus Teichmeyer has given us a treatiſe of the animal œconomy, which is intitled anthropologia.

Anthropology, among divines, denotes that manner of expreſſion by which the inſpired writers attribute human parts and paſſions to God. As in Geneſis, God is ſaid to have repented of having made man. Anthropology, in ſpeaking of God, is neceſſary to give us an idea of many things, which otherwiſe we could not conceive.

ANTHROPOMANCY, ανθρωπομαντεια, a ſpecies of divination, performed by inſpecting the intrails of a human creature.

ANTHROPOMORPHA, in the linnæan ſyſtem of zoology, a claſs of animals, reſembling in ſome degree the human form; the diſtinguiſhing characteriſtic of which is, that all the animals, comprehended in it, have four fore teeth in each jaw, and the teats are ſituated on the breaſt. Beſides the human ſpecies, which ſtands at the head of this claſs, it likewiſe comprehends the monkey and ſloath kinds.

ANTHROPOMORPHISM, among eccleſiaſtical writers, denotes the hereſy, or error of the anthropomorphites. See the next article.

ANTHROPOMORPHITES, in church-hiſtory, a ſect of antient heretics, who taking every thing ſpoken of God in the ſcripture in a literal ſenſe, particularly that paſſage of Geneſis, in which it is ſaid, *God made man after his own image,* maintained that God had a human ſhape. They are likewiſe called audeans, from Audeus their leader.

ANTHROPOMORPHOUS, an appellation given to whatever reſembles the human form; thus we meet with anthropomorphous plants, particularly mandrake; anthropomorphous animals, &c. See the articles ANTHROPOMORPHA, and MANDRAGORA.

ANTHROPOPATHY, a figure or expreſſion by which ſome paſſion is aſcribed to God, which properly belongs only to man. It differs from anthropology as the genus from the ſpecies; anthropology ſignifying any thing human attributed to God, but anthropopathy only human affections, paſſions, &c.

ANTHROPOSCOPY, ανθρωποσκοπια, that part of phyſiognomy which judges of a man's character, &c. from the lineaments of his body.

ANTHROPOPHAGY, ανθρωποφαγια, the act of eating human fleſh.

This cuſtom, barbarous as it is, can boaſt of great antiquity. Some authors trace its original as high as the deluge. The primitive chriſtians were accuſed of it by the heathens, who in all probability grounded the calumny on their miſunderſtanding what they had heard of the euchariſt and the communion. In the ſouthern part of Africa, and in ſome parts of America, this horrid practice is ſaid ſtill to prevail.

ANTHROPOTHYSIA, ανθρωποθυσια, the inhuman practice of offering ſacrifices of men or women.

The Anthropothyſia, whatever horror the idea of it may now excite, was a frequent practice among the antients. Some have imagined that the ſacrifice of Abraham was the firſt inſtance. Many reaſonings and diſquiſitions have been founded on this ſuppoſition; by which the ſeverity of Abraham's trial is thought by ſome to have been ſomewhat exaggerated. Human ſacrifices were in uſe among the Gentiles before that time; practiſed by

kings as well as by private perfons; nay by entire nations, as the Egyptians, Phœnicians, Canaanites, &c.

ANTHYLLIS, the Bladder Lotus, in botany, a genus of the *diadelphia-decandria* clafs of plants, the corolla whereof is papilionaceous; the fruit is a fmall roundifh legume, compofed of two valves, and containing one or two feeds. This genus comprehends the vulneraria of Tournefort and others.

ANTI, ἀντι, a greek prepofition, which enters into the compofition of feveral words, both latin, french, and englifh, in different fenfes. Sometimes it fignifies *before*, as in antichamber, and fometimes oppofite or contrary, as in the names of thefe medicines, antifcorbutics, antivenereal, &c. See the articles Antichamber, and Antiscorbutics.

Anti, in matters of literature, a title given to feveral books written in anfwer to others. Such are the *Anti-baillet*, *Anti-menagiana*, &c.

ANTIBACCHIUS, in antient poetry, a foot confifting of three fyllables, the two firft long, and the laft one fhort, fuch is the word āmbīrĕ.

ANTIBES, a fea-port town of Provence in France, fituated on the Mediterranean, in eaft longitude 7°. north latit. 43°. 40′.

ANTICHAMBER, an outer chamber, for ftrangers to wait in, till the perfon to be fpoken with is at leifure.

A well proportioned anti-chamber ought to be in length the diagonal line of the fquare of the breadth, and not to exceed the breadth and half at moft.

ANTICHRESIS, among civilians, the fame with what in the common law is called a mortgage. See Mortgage.

ANTICHRIST, among ecclefiaftical writers, denotes a great adverfary of chriftianity, who is to appear upon the earth towards the end of the world. He is called in fcripture, *the man of fin*, *the fon of perdition*, &c. However, as the opinions of authors differ widely concerning him, we fhall refer the curious to Malvenda, a fpanifh monk, who has written exprefsly on the fubject.

NTICHTHONES, in antient geography, an appellation given to the inhabitants of oppofite hemifpheres, as the fouthern and northern.

ANTICIPATION, the act of doing a thing before the time.

Anticipating a payment, is to pay it before the time be expired when it is to become due. See the article Advance.

ANTICOR, or Anticoeur, among farriers, an inflammation in the horfe's throat; being the fame with the quinzy in mankind.

Moft writers are agreed, that this diforder proceeds from hard riding, expofing a horfe to the cold, and giving him cold water to drink when he is hot, full feeding, and whatever elfe may caufe a fudden ftagnation of the blood. Some will have it to proceed from fatnefs and rank feeding.

The cure fhould firft be attempted by large and repeated bleedings, to abate the inflammation; and Mr. Gibfon approves of ftriking one or other of the veins of the hind parts to make a revulfion.

Next to bleeding, if the horfe be coftive or bound in his body, clyfters are of ufe; and Dr. Bracken directs the following as a general one. Take leaves of mallows and pellitory of the wall, of each three handfuls; camomile flowers, one handful; annifeed and fweet fennelfeed, each half an ounce; linfeeds, one ounce; boil thefe in three quarts of water to two; then ftrain and prefs out the liquor ftrongly, and add of caryocoftinum electuary one ounce, common falt two ounces, and common plaifter oil three ounces. Mix. Thefe fhould be injected through a very long pipe, for the purpofe, and as warm as a man can bear his cheek to the fide of the bladder it is tied up in, and it fhould be repeated every two or three days, as occafion offers.

ANTICOSTE, an american ifland, fituated before the mouth of the river St. Lawrence, in 64°. weft longitude, and 49°. 52′. north latitude.

ANTICUS, a term ufed by anatomifts, importing that the part with which it is joined, ftands before fome others: thus, we meet with ferratus anticus, peronæus anticus, tibialis anticus, &c. See the article Serratus, &c.

ANTIDESMA, in botany, a genus of the dioecia pentandria clafs of plants, the calyx of which is a perianthium, confifting of five oblong concave leaves; there is no corolla; the fruit is a cylindric berry, containing one cell; in which is lodged a fingle feed.

ANTIDOTE, among phyficians, a remedy taken to prevent, or to cure peftilential difeafes.

It fignifies alfo a medicine which prevents the ill effects of poifon; in which fenfe it is the fame with alexipharmic. See the article Alexipharmic.

AN-

ANTIENT, or ANCIENT, a term applied to things which exifted long ago: thus, we fay, antient nations, antient cuftoms, &c.

ANTIENT, fometimes alfo denotes elderly, or of long ftanding, in oppofition to young or new; thus, we fay, an antient barrifter, antient building, &c.

ANTIENT, in a military fenfe, denotes either the enfign, or the colours.

ANTIENT, in fhips of war, the ftreamer or flag, borne in the ftern.

ANTIENT DEMESNE, or DEMAIN, in law. See the article DEMAIN.

ANTIGUA, or ANTEGO. See ANTEGO.

ANTIHECTICS, in pharmacy, medicines good in hectical diforders.

The antihecticum poterii, is a preparation of tin, and chalybeated regulus of antimony, in equal quantities, with three times as much nitre, faid to do wonders in hectical and nervous cafes.

ANTILLES, the fame with the Caribbee iflands. See the article CARIBBEE.

ANTILOGARITHM, the complement of a logarithm. See COMPLEMENT.

ANTILOGY, in matters of literature, an inconfiftency between two or more paffages of the fame book.

ANTILYSSUS PULVIS, a medicine confifting of equal parts of the *lichen cinereus terreftris*, and black pepper, reckoned good to prevent the *rabies canina.*

ANTIMETABOLE, in rhetoric, a figure whereby two things are fet in oppofition to each other.

ANTIMONARCHICAL, an appellation given to whatever oppofes monarchical government. See the article MONARCHY.

ANTIMONIALS, in medicine, preparations of antimony. See ANTIMONY.

ANTIMONIATED, fomething impregnated with the virtues of antimony.

ANTIMONY, in natural hiftory, one of the femi-metals, as they are called, feparated by fufion from a very hard and heavy, lead-coloured fubftance, called antimony-ore: this ore is compofed of a number of extremely fmall fparkling granules, which give it the appearance of a lump of the pureft fteel, where frefh broken.

Antimony is of confiderable ufe in medicine, chymiftry, and mechanics. It promotes the fufion of metals, but makes every thing brittle with which it is mixed. It is alfo an ingredient in pewter, bell-metal, and the mixt-metal of which the types for printing are made.

Preparations of ANTIMONY. We find a multitude of thefe in medical writers, fome of which are diaphoretic, whilft others are cathartic or emetic. 1. Precipitated fulphur of antimony, which is a diaphoretic, and faid to be a great medicine in fcorbutic cafes. 2. Crocus, or faffron of antimony, called *crocus metallorum*, principally ufed by the farriers for horfes. 3. Wafhed crocus of antimony, of which is made the *vinum antimoniale*, called alfo *vinum emeticum*, and *vinum benedictum*, a powerful emetic, given from one ounce to two or three at a dofe. 4. Emetic tartar, made by boiling equal quantities of wafhed crocus of antimony and cryftals, or cream of tartar, in three times the weight of the whole of common water; and letting this fhoot again into cryftals, which are the emetic tartar. This is faid to be a good emetic, and preferable to all the other antimonial ones; its dofe being from two grains to fix or eight. 5. The calx of antimony, commonly called diaphoretic antimony. 6. The antimonial cauftic, made with corrofive fublimate. 7. Cinnabar of antimony. 8. Tincture of antimony. 9. Butter of antimony. 10. Regulus of antimony, with a great many others to be found in difpenfatories. See CINNABAR, BUTTER, &c.

ANTINOMIANS, in church-hiftory, certain heretics, who firft appeared about the year 1535, and fo called becaufe they rejected the law, as of no ufe under the gofpel-difpenfation, with other doctrines equally abfurd.

ANTIOCH, a town of Syria, formerly its capital, but now in a ruinous condition, fituated on the river Orontes, in 37°. eaft longitude, and 36°. north latitude.

ANTIPARALLELS, in geometry, are thofe lines D E, B C, (plate XIX. fig. 2. N°. 1.) which make the fame angles A D E, A C B, with the two lines A B, A C, cutting them, like parallel lines, but in oppofite directions.

But M. Leibnitz calls antiparallels thofe lines E F, G H, (id. N° 2.) which cut two parallels A B, C D, fo that the outward angle A D F, being added to the inward one A K H, the fum may be equal to a right angle.

ANTIPATHY, a natural averfion of one body to another, in contradiftinction to fympathy. See SYMPATHY.

Some authors endeavour to account for the antipathy between animals: thus, as

effluvia and fpirituous fteams, fay they, proceed from the bodies of all creatures, fome of which difagree with others, they excite hatred and anger in each other.

ANTIPATHY is ufed in painting, for an oppofition between the qualities of colours.

This antipathy is chiefly obferved between colours, which endeavour, as it were, to predominate over each other, and which by their mixture deftroy each other. *e. gr.* ultramarine and vermillion. This does not obtain in the clair obfcure; for tho' there be nothing more oppofite to each other than black and white, as the one reprefents light, and the other darknefs; yet they each preferve themfelves in the mixture, and form together a grey which partakes of both.

ANTIPERISTALTIC *motion of the inteftines*, the reverfe of the periftaltic motion. See the article PERISTALTIC.

ANTIPERISTASIS, in the peripatetic philofophy, an imaginary intention, or heightening of any quality, by the oppofition of its contrary. Thus, cold is faid to augment the heat of fire; a doctrine, which every ftudent in phyfics can now difprove.

ANTIPHONY, in mufic, the name which the Greeks gave to that kind of fymphony which was executed in octave or double octave.

Antiphony is likewife the anfwer made by one choir to another, when an anthem is fung between them.

ANTIPHRASIS, ἀντίφρασις, in rhetoric, a figure by which in faying one thing we mean the contrary. See IRONY.

This figure regards fentences, and not fingle words.

ANTIPODES, in geography, a name given to thofe inhabitants of the globe that live diametrically oppofite to one another. They lie under oppofite parallels, and oppofite meridians. They have the fame elevation of their different poles. It is mid-night with the one, when it is noon-day with the other; the longeft day with one is the fhorteft with the other; and the length of the day with the one is equal to the night of the other.

ANTIPOPE, in the romifh church, one elected pope in an irregular manner, in oppofition to another.

ANTIPREDICAMENTS, in logic. See the article ANTEPREDICAMENTS.

ANTIPTOSIS, ἀντίπτωσις, in rhetoric, a figure which puts one cafe for another. See the article CASE.

ANTIQUARY, a perfon who ftudies and fearches after monuments and remains of antiquity.

There were formerly in the chief cities of Greece and Italy, perfons of diftinction called antiquaries, who made it their bufinefs to explain the antient infcriptions, and give every other affiftance in their power to ftrangers who were lovers of that kind of learning. We have in London a fociety of antiquaries incorporated by the king's charter.

ANTIQUATED, fomething obfolete, out of date, or out of ufe.

ANTIQUE, in a general fenfe, fomething that is antient: but the term is chiefly ufed by fculptors, painters, and architects, to denote fuch pieces of their different arts, as were made by the antient Greeks and Romans. Thus we fay, an antique buft, an antique ftatue, &c.

Antique is fometimes contradiftinguifhed from antient, which fignifies a lefs degree of antiquity. Thus, antique architecture is frequently diftinguifhed from antient architecture.

ANTIQUITY, fignifies times or ages paft long ago. Thus, we fay, the heroes of antiquity, &c.

ANTIQUITY is alfo ufed to denote the works, or monuments of antiquity.

Thus we fay, England abounds in antiquities.

In this fenfe too, Bacon calls antiquities the wrecks of hiftory, or fuch particulars as induftrious perfons have collected from genealogies, infcriptions, monuments, coins, names, etymologies, archieves, inftruments, fragments of hiftory, &c. This is, indeed, a laborious work, but fuch as ought to come in the place of thofe fabulous origins of nations we abound with; being not only more ufeful, but likewife more acceptable to the judicious part of mankind.

ANTIQUITY likewife expreffes the great age of a thing, and in this fenfe we fay the antiquity of a family, the antiquity of a kingdom.

ANTIRRHINUM, the name ufed by botanical writers for a genus of plants, called in englifh fnapdragon. See the article SNAPDRAGON.

ANTISAGOGE, in rhetoric, the fame with conceffion. See CONCESSION.

ANTISCII, in geography, people who live on different fides of the equator, whofe fhadows at noon are projected oppofite ways.

ANTISCORBUTICS, among phyficians, medicines good in all fcorbutical cafes. See the article SCURVY.

ANTISEPTICS, among phyficians, a denomination given to all fubftances that refift putrefaction.

Concerning thefe, which are extremely numerous, we have feveral curious obfervations in Dr. Pringle's difeafes of the army. The following table exhibits a comparative view of the antifeptic virtue of falts, the common fea-falt being reckoned equal to unity.

Sea-falt	1	Nitre	4
Sal gemmæ	1	Salt of hartfhorn	4
Tartar vitriolat.	2	Salt of wormwood	4
Spirit minder.	2	Borax	12
Tartar folub.	2	Salt of amber	20
Sal diuret.	2	Alum	30
Sal ammoniac.	3		

Some refinous, and other fubftances, were found to be twelve times more antifeptic than fea-falt: fuch are myrrh, afa-fœtida, fnake-root, pepper, ginger, faffron, contrayerva-root, *&c.*

Antifeptics are of ufe in all putrid, malignant, and peftilential cafes.

ANTISTOECHON, in grammar, the ufing one letter inftead of another, as *olli* for *illi*.

ANTISTROPHE, ἀντιστροφη, in grammar, a figure by which two things mutually dependent on one another, are reciprocally converted. As the fervant of the mafter, and the mafter of the fervant.

ANTISTROPHE, among lyric poets, that part of a fong and dance in ufe among the antients, which was performed before the altar, in returning from weft to eaft, in oppofition to ftrophe. See the articles STROPHE and ODE.

ANTITACTÆ, in church-hiftory, a branch of gnoftics, who held that God was good and juft, but that a creature had created evil; and, confequently, that it is our duty to oppofe this author of evil, in order to avenge God of his adverfary.

ANTITHENAR, in anatomy, a name given to the *adductor indicis*. See the article ADDUCTOR.

ANTITHESIS, in rhetoric, a contraft drawn between two things, which thereby ferve as fhades to fet off the oppofite qualities of each other.

The poets, hiftorians, and orators improve their fubject, and greatly heighten the pleafure of the reader, by the pleafing oppofition of their characters and defcriptions.

The beautiful antithefis of Cicero, in his fecond Catilinarian, may ferve for an example: ‘ On the one fide ftands modefty, on the other impudence; on the one fidelity, on the other deceit; here piety, there facrilege; here continency, there luft, *&c.*’—And Virgil, in his beautiful difcription of Dido's defpair, the night before her death, reprefents all the reft of the creation, enjoying profound tranquility, to render the difquietudes of that miferable queen the more affecting. St. Auguftine, Seneca, and many other antient writers feem to affect antithefis; but among the moderns they are very much neglected.

ANTITHESIS, in grammar, the fame with antiftoechon. See ANTISTOECHON.

ANTITHET denotes either a quality or thing, fet in oppofition to its contrary.

ANTITHETARIUS, in law, a perfon, who endeavours to acquit himfelf, by charging the accufer with the fame fact.

ANTITRAGUS, or ANTITRAGICUS *mufculus*, in anatomy, a mufcle of the ear. See the article EAR.

ANTITRINITARIANS, a general name given to all thofe who deny the doctrine of the trinity, and particularly to the arians and focinians.

ANTITYPE, among ecclefiaftical writers, denotes a type correfponding to fome other type or figure.

ANTITYPE, in the greek church, is alfo an appellation given to the fymbols of bread and wine in the facrament, and that even after confecration: fo that it fhould feem, they do not believe tranfubftantiation.

ANTIVARI, a fea-port town of Albania, fituated on the gulph of Venice, in 19° 40′ eaft longitude, and 42° 10′ north latitude. It is fubject to the Turks.

ANTIVETRIA, a province or fubdivifion of Terra Firma, in South America, lying fouthwards of Carthagena.

ANTLER, among fportfmen, a ftart or branch of a deer's attire.

Brow-ANTLER, denotes the branch next the head: and,

Bes-ANTLER, the branch next above the brow-antler.

ANTOECI, in geography, an appellation given to thofe inhabitants of the earth who live under the fame meridian, but on different fides of the equator, and at equal diftances from it.

Thefe have noon and midnight and all hours at the fame time, but contrary feafons

ſons of the year; that is, when it is ſpring with the one, it is autumn with the other; when ſummer with the one, winter with the other. And the days of the one are equal to the nights of the other, and *vice verſa.*

ANTONIAN WATERS, *antonianæ aquæ,* medicinal waters of Germany, very pleaſant to the taſte, and eſteemed good in many chronic as well as hypochondriac caſes.

This water, if mixed with any acid liquor, raiſes a conſiderable effervefcence, and when mixed with rheniſh wine and ſugar, which is a common way of drinking it, it makes a great hiſſing and bubbling, and becomes turbid and milky. If powder of galls be added to it, it ſuffers no change but remains limpid and colourleſs; whence it is plain that it contains no iron, nor vitriol. Syrup of vitriol mixed with it turns the whole green, whence it is plain that it contains an alkali; and if oil of tartar be added to it, it becomes turbid and milky, and precipitates a white ſediment, whence it appears that there is either common ſalt or a calcarious earth in it. If it be expoſed ſometime to the air in an open veſſel, it, like all the other mineral waters, loſes its pungent taſte and pellucidity, becoming turbid and vapid. A quart of it evaporated with a very gentle heat leaves two ſcruples of a dry ſediment, which being ſeparated by another ſolution is found to be one half an alkaline ſalt, and the other a calcarious earth. Oil of vitriol mixed with the ſalt produces a great efferveſcence, and a penetrating ſcent ariſes like that produced by the mixing oil of vitriol and common ſalt. Hence it appears that theſe waters contain a ſmall portion of an alkaline ſalt, a larger portion of ſea-ſalt, and a yet larger of a calcarious earth, and with theſe a very conſiderable quantity of a ſubtile and penetrating mineral ſpirit.

It is a very temperate water, not too ſtrongly operating either by ſtool or urine; and hence it is a very proper drink for perſons in chronic and in many acute caſes, either alone or mixed with wine to ſupply the place of malt liquor, which is proper but in very few illneſſes. A long uſe of it alone may alſo prove of conſiderable ſervice in hypochondriac caſes.

ANTONIO, one of the Cape Verd iſlands, ſubject to the Portugueſe, and ſituated in 26° weſt longitude, and 18° north lat.

ANTONOMASIA, in rhetoric, a figure by which the proper name of one thing is applied to ſeveral others; or, on the contrary, the name of ſeveral things to one. Thus we call a cruel perſon, a Nero; and we ſay the philoſopher, to denote Ariſtotle.

ANTRIM, the moſt north-eaſt county of Ulſter, in the kingdom of Ireland.

ANTRIM is alſo the name of the chief town of the aforeſaid county, ſituated at the north end of Lough-neah, in 6° 26′ weſt longitude, and 54° 45′ north latitude.

ANTRUM, among anatomiſts, a term uſed to denote ſeveral cavities of the body, as the *antrum genæ,* or that in the cheek-bone; the *antrum highmorianum,* or that in the maxillary or jaw-bone; and the *antrum pilori,* or that at the bottom of the pylorus.

ANTWERP, a beautiful city of the Auſtrian Netherlands, and capital of the marquiſate of the ſame name. It ſtands on the eaſtern ſhore of the river Scheld, about twenty-five miles north of Bruſſels, in 4° 15′ eaſt longitude, and 51° 15′ north latitude.

ANVIL, an iron inſtrument on which ſmiths hammer or forge their work, and uſually mounted on a firm wooden block. See it repreſented in plate CCLIII. fig. 2. among the utenſils or tools belonging to the art of SMITHERY.

A forged anvil is reckoned better than one of caſt work.

ANUS, in anatomy, the extremity of the *inteſtinum rectum,* or orifice of the fundament. It is ſurrounded with a large quantity of fat, that it may be eaſily dilated in the evacuation of its contents, and is furniſhed with three muſcles called elevatores and ſphincter. See the article SPHINCTER, &c.

Anus denotes alſo a ſmall cavity in the third ventricle of the brain. See BRAIN.

ANUS, in botany, ſignifies the poſterior opening of a monopetalous flower.

AONIDES, in mythology, one of the many appellations of the muſes, ſo called from Aonia, a part of antient Bœotia.

AORIST, ἀοριςος, among grammarians, a tenſe peculiar to the greek language, comprehending all the tenſes; or rather, expreſſing an action in an indeterminate manner, without any regard to paſt, preſent, or future.

AORTA, in anatomy, called alſo *arteria magna,* a large artery ariſing with a ſingle trunk from the left ventricle of the heart

above

above its valves, called femilunares, ferves to convey the mafs of blood to all parts of the body.

After afcending a little upwards, its trunk is bent, in manner of an arch, and from this part it fends, in human fubjects, ufually three afcending branches. This is called the *aorta afcendens.*

The *defcendens* is that part of the trunk which, after the arch-like inflection defcends thro' the thorax and the abdomen down to the os facrum, and is ufually larger in women than in men. The *aorta* hath four tunics, a nervous, a glandulous, a mufcular, and a membranous one. See the article ARTERY.

AOUST, a town of Piedmont in Italy, capital of the dutchy of the fame name, fituated about fifty miles north of Turin, in 7° 10′ eaft longitude, and 45° 45′ north latitude.

APAGOGICAL DEMONSTRATION, an indirect way of proof, by fhewing the abfurdity of the contrary.

APALACHIAN MOUNTAINS, a ridge of mountains of north America, lying weftward of the britifh plantations, and extending from 30° to 40° north latitude.

APAMEA, or HAMA, a town of Syria, fituated on the river Orontes, in 38° 30′ eaft longitude, and 34° north latitude.

APAMEA is is alfo the name of a town of Phrygia, upon the river Marfyas; of a town of Media, confining upon Parthia; and of a town of Bithynia, called by the Turks Myrlea.

APANAGE, or APENNAGE, in the french cuftoms, lands affigned by a fovereign for the fubfiftence of his younger fons, which revert to the crown upon failure of male iffue in that branch to which the lands are granted.

In England, the younger fons have no certain apanage, as in France, but only what the king is pleafed to beftow upon them.

APARINE, CLEAVERS, in botany, a genus of plants, with a campanulated monopetalous flower, very wide at the mouth. Its fruit is a kind of dry berry, formed of two fmall globofe bodies adhering together, and containing a fingle roundifh feed. See plate XIX. fig. 3.

Aparine is of fome repute as an antifcorbutic. It is called by Linnæus gallium. See GALLIUM.

APARTMENT, a portion of a houfe, containing different conveniencies for a perfon to live in; as a hall, or dining-room, a bed-chamber, an anti-chamber, a clofet, and wardrobe.

APATHY, a term in philofophy, denoting an utter privation of paffion, and an infenfibility of pain. Thus, the ftoics affected an entire apathy, fo as not to be ruffled, or fenfible of pleafure or pain.

APATURIA, ἀπατέρια, in grecian antiquity, an athenian feftival kept in honour of Bacchus.

It was during this folemnity, that the young people were regiftered in the refpective wards of their fathers.

APE, in zoology, the englifh name of the *fimiæ*, or monkeys without any tail. See the article SIMIA.

APELLITES, chriftian heretics in the fecond century, who affirmed that Chrift received a body from the four elements, which at his death he rendered back to the world, and fo afcended into heaven without a body.

APENE, ἀπήνη, in antiquity, the chariot in which the images of the gods were carried on folemn occafions.

APENRADE, a town of Slefwic, or fouth Jutland, fituated on a bay of the Balticfea, in 10° eaft longitude, and 55° north latitude.

APENZEL, a town of Switzerland, capital of the canton of the fame name, and fituated in 9° eaft longitude, and 47° 30′ north latitude.

APEPSY, in medicine, denotes crudity or a bad digeftion, arifing from a rawnefs of the ftomach, and a want of concoction of the aliments.

APER, in zoology, the boar, or male of the hog-kind. See the article HOG.

APER, in ichthyology, a name by which fome call two very diftinct fifhes, the zeus and caprifcus. See the articles ZEUS, and CAPRISCUS.

APER *mofchiferus*, the mufk-boar, in zoology, the fame with the american tajacu. See the article TAJACU.

APE'RIENS, *palpebram rectus*, in anatomy, a mufcle of the eye-lid. It arifes fharp and flefhy from the profoundeft part of the orbit, near the place where the optic nerve is tranfmitted, paffing directly over the mufculus attollens; it becomes tendinous, as it marches over the ball of the eye, whence it ftill grows broader and thinner, till it is inferted into the whole fuperior part of the upper eye-lid.

APERIENTS, in the materia medica, an appellation given to fuch medicines as facilitate the circulation of the juices in their

their containing veſſels, by removing all obſtructions. See the articles DETERGENTS and DEOBSTRUENTS.

The five greater aperient roots of the ſhops are ſmallage, fennel, aſparagus, parſly, and butcher's-broom; as the five leſſer ones are graſs, madder, eryngo, capers, and chammoc.

APERTURE, the opening of any thing, or a hole or cleft in any continuous ſubject.

APERTURE, in geometry, the ſpace between two right lines which meet in a point, and form an angle.

APERTURE, in optics, a round hole in a turned bit of wood or plate of tin, placed within ſide of a teleſcope or microſcope, near to the object glaſs, by means of which more rays are admitted, and a more diſtinct appearance of the object is obtained. According to Mr. Huygens, the beſt aperture for an object glaſs of thirty feet, is as thirty to three; that is, as ten to one, ſo is the ſquare root of the focal diſtance of any lens, multiplied by thirty to its proper aperture. Mr. Auzout ſays, he found by experience, that the proper apertures of teleſcopes, ought to be nearly in the ſubduplicate ratio of their length. It is certain that object-glaſſes will admit of greater apertures, if the tubes be blackened within ſide, and their paſſage be furniſhed with wooden rings.

APERTURES, or APERTIONS, in architecture, are uſed to ſignify doors, windows, chimneys, outlets and inlets for light, ſmoke, &c. They ought to be as few in number, and as moderate in dimenſions as poſſible, and never made too near the angles of the walls.

APERTURA TABULARUM, in law books, the breaking open a laſt will and teſtament. See the article WILL, &c.

APERTURA FEUDI, in the civil law, ſignifies the loſs of a feudal tenure, by default of iſſue to him to whom the feud was firſt granted. See the article FEE.

APETALOSE, or APETALOUS, among botaniſts, an appellation given to ſuch plants as have no flower-leaves.

APEX, in antiquity, the creſt of a helmet, but more eſpecially a kind of cap worn by the flamens.

APEX, among grammarians, denotes the mark of a long ſyllable, falſely called a long accent. See the article ACCENT.

APHACA, VETCHLING, in botany, a genus of plants, with papilionaceous flowers, and a ſmall pod for its ſeed-veſſel. Linnæus makes it only a ſpecies of lathyrus. See plate XIX. fig. 4. and the article LATHYRUS.

APHÆRESIS, ἀφαίρεσις, in grammar, a figure by which a letter or ſyllable is cut off from the beginning of a word.

APHÆRESIS, that part of ſurgery which teaches to take away ſuperfluities.

APHANES, PARSLEY-PIERT, in botany, a genus of the tetrandria digynia claſs of plants, the calyx of which is a permanent perianthium of a tubulated figure, conſiſting of a ſingle leaf divided into eight ſegments at the edge, and thoſe alternately larger and ſmaller: there is no corolla; nor is there any pericarpium; but the calyx cloſes at the mouth, and contains two oval acuminated ſeeds, compreſſed, and of the length of the ſtyle.

APHELIUM, or APHELION, in aſtronomy, is that point in any planet's orbit, in which it is fartheſt diſtant from the ſun; being in the new aſtronomy, that end of the greater axis of the elliptical orbit of the planet, moſt remote from the focus wherein the ſun is.

The times of the aphelia of the primary planets, may be known by their apparent diameters appearing leaſt; as alſo, by their moving ſloweſt in a given time. They may likewiſe be found by calculation, the method of doing which is delivered in moſt aſtronomical writers.

Kepler places the aphelia for the year 1700, as in tab. Nº. 1; and De la Hire, as in tab. Nº. 2.

Tab. Nº. 1.					Tab. Nº. 2.				
♄ in	28°	3′	48″	of ♐	♄ in	29°	14′	41″	of ♐
♃	8	10	40	♎	♃	10	17	14	♎
♂	0	51	29	♍	♂	0	35	25	♍
♀	3	24	27	♒	♀	6	56	10	♒
☿	8	25	30	♑	☿	31	3	40	♑

De la Hire makes the yearly motion of them to be ♄ 1′ 22″, ♃ 1′ 34″, ♂ 1′ 7″, ♀ 1′ 26″, and ☿ 1′ 39″.

Dr. Halley has given us a ſtrict geometrical method for finding the aphelia of the planets, in the Philoſ. Tranſact. Nº. 128.

Sir Iſaac Newton and Dr. Gregory have proved that the aphelia of the primary planets are at reſt. See Princip. prop. 14. lib. 3. And in the ſcholium to the above propoſition they ſay, that the planets neareſt to the ſun, *viz.* Mercury, Venus, the Earth, and Mars, from the actions of Jupiter and Saturn upon them, move a ſmall matter in conſequentia with regard to

to the fixed ſtars, and that in the ſeſquiplicate ratio of their reſpective diſtances from the ſun.

APHIS, in zoology, the general name for the inſects called in engliſh tree-lice.

The aphis has four erect wings, or none at all; its trunk is reflex; and the body is formed into two horns behind.

APHORISM, ἀφορισμὸς, a maxim or principle of a ſcience; or a ſentence which comprehends a great deal in a few words. The term is ſeldom uſed but in medicine and law. We ſay the aphoriſms of Hippocrates, the aphoriſms of the civil law, political aphoriſms, &c.

APHORISTIC, ſomething belonging to, or partaking of, the nature of an aphoriſm. See the preceding article.

The aphoriſtic method ſtands contradiſtinguiſhed to the ſyſtematic, or methodical, as alſo to the diexodic, or diſcurſive way. The aphoriſtic method has great advantages, as containing much matter in a ſmall compaſs; ſentiments are here almoſt as numerous as expreſſions; and doctrines may be counted by phraſes. Every thing is cloſe and pertinent, no room for uſeleſs diſcuſſions, or for languiſhing connections, and tranſitions; there is hardly a word to be loſt.

APHRACTI, ἄφρακτοι, in the maritime affairs of the antients, were open veſſels, without any decks.

APHRODISIA, ἀφροδίσια, in antiquity, feſtivals kept in honour of Venus, the moſt remarkable of which was that celebrated by the Cyprians, firſt inſtituted by Cinyras, out of whoſe family certain prieſts of Venus were elected, and for that reaſon named Κινυράδαι. At this ſolemnity ſeveral myſterious rites were practiſed: all who were initiated to them offered a piece of money to Venus as an harlot, and received as a token of the goddeſs's favour a meaſure of ſalt, and a φαλλὸς; the former becauſe ſalt is a concretion of ſea-water, to which Venus was thought to owe her birth; the latter becauſe ſhe was the goddeſs of wantonneſs.

APHRODISIACS, among phyſicians, medicines which increaſe the quantity of ſeed, and create an inclination to venery.

APHRODITA, in zoology, one of the naked ſea-inſects, of an oval ſhape, and acculeated, with a perforation in the middle of the back.

APHTHÆ, in medicine, ſmall, round, and ſuperficial ulcers ariſing in the mouth. The principal ſeat of this diſeaſe, is the extremity of excretory veſſels, ſalival glands, and, in ſhort all glands that furniſh a humour like the ſaliva, as the lips, gums, &c.

Children and old men are ſubject to the aphthæ, becauſe the *vis vitæ* in both is languid, and the humours liable to become viſcous. In the cure of the aphthæ, it will be proper to uſe *mel roſatum*, acidulated with the ſpirit of vitriol.

APHYA Cobites, in ichthyology, a ſpecies of gobius, with ſeventeen rays in the ſecond dorſal fin. See Gobius.

It is a very pretty, tho' a very ſmall fiſh, about an inch and a half long; the head is ſhort and compreſſed, and the body rounded and alſo ſomewhat compreſſed.

APHYLLANTHES, the *blue montpellier-pink*, in botany, a genus of the hexandria monogynia claſs of plants, the calyx of which is compoſed of a number of imbricated, lanceolated ſpathæ; the corolla conſiſts of ſix petals, of an obverſely oval figure, terminating at the baſe in very narrow ungues, and patent at the limb, forming a kind of tube below it: the fruit is a turbinated capſule of a triangular figure, and contains three cells; the ſeeds are oval.

APIARY, a place where bees are kept, which ſhould be properly defended from high winds, as well as from poultry, hogs, &c. whoſe dung is extremely offenſive to the bees. See Bee and Hive.

APICES, in botany, the ſame with antheræ. See the article Antheræ.

APIS, or Apes, in zoology, a genus of four-winged inſects, with wings entirely membranaceous, and their tails furniſhed with a ſting; comprehending the bee, hornet, waſp, and humble-bee. See the articles Bee, Hornet, &c.

APIUM, parsley, in botany, a genus of the pentandria digynia claſs of plants, the partial umbel of which is compoſed of a great many rays; the general umbel of fewer: they have neither of them any involucra; the perianthium is ſcarce viſible; the general corolla is uniform; the ſingle flowers conſiſt each of five roundiſh, inflex, equal petals: the fruit is naked, oval, ſtriated, and diviſible into two parts, containing two ſeeds of an oblong oval ſhape, convex and ſtriated on one ſide, and plane on the other. See the article Parsley.

APLUDA, in botany, a genus of the triandria digynia claſs of plants, the common calyx of which is an univalve, biſloral, ovated, concave, looſe, mucronated

ed glume; the proper glume is bivalve, and placed obliquely; the corolla is a bivalve glume of the length of the cup: there is no pericarpium: the feed, which is fingle, is involved in the glume of the corolla.

APLUSTRE, APLUSTRÆ, or AMPLUSTRÆ, in the naval architecture of the antients, an ornament refembling a fhield fixed in the poop of a fhip, in which cafe it differed from the acroftolium. See the article ACROSTOLIUM.

APOBATERION, in antiquity, a valedictory fpeech or poem made by a perfon on departing out of his own country, and addreffed to his friends or relations.

APOCALYPSE, ἀποκάλυψις, one of the facred books of the New Teftament, fo called from its containing revelations concerning feveral important doctrines of chriftianity.

It ftands laft in the canon of fcripture, and is generally attributed to the apoftle St. John; tho' there have not been wanting fome, who afcribe it to other authors, and even wholly reject it as fpurious.

APOCOPE, among grammarians, a figure which cuts off a letter or fyllable from the end of a word, as *ingeni* for *ingenii*.

APOCRISIARIUS, in antiquity, an officer who delivered the meffages of the emperor. He became afterwards chancellor, and kept the feals. It was alfo a title given to a bifhop's refident at court, to the pope's deputy at Conftantinople, and to the treafurer of a monaftery.

APOCRUSTICS, ἀποκρουστικά, in medicine, the fame with repellents. See the article REPELLENTS.

APOCRYPHAL, fomething dubious, is more particularly applied to certain books not admitted into the canon of fcripture. Thofe are certain books of the Old Teftament extant only in greek, admitted by the church of Rome as canonical, but rejected by the reformed churches as no part of holy writ; fuch are the books of Judith, Wifdom, Tobit, Baruch, Maccabees, the third and fourth books of Efdras.

In this fenfe apocryphal ftands diftinguifhed from canonical, though the romifh church difowns the diftinction. See the articles CANON and CANONICAL.

Authors are divided as to the origin of the appellation apocryphal, and the reafon why it was given to thefe books.

The apocryphal books were not received into the canon, either of the Jews, or antient Chriftians, but were firft made canonical by a decree of the council of Trent. The apocryphal books, according to the fixth article of the church of England, are to be read for example of life and inftruction of manners; but it doth not apply them to eftablifh any doctrine.

APOCYNUM, DOGSBANE, in botany. See the article DOGSBANE.

APODICTICAL, among philofophers, a term importing a demonftrative proof, or fyftematical method of teaching.

APOGEE, *apogæum*, in the old aftronomy, that point of the orbit of a planet, or the fun, which is fartheft from the earth.

Antient aftronomy, which placed the earth in the center of the fyftem, was much taken up in afcertaining the apogee and perigee; which the moderns have changed for aphelium and perihelium. See the article APHELIUM, &c.

APOLLINARIAN GAMES, in roman antiquity, an appellation given to certain theatrical entertainments, celebrated annually in honour of Apollo. They were inftituted in the year of Rome 542. The occafion was a kind of oracle delivered by the prophet Marcus after the fatal battle at Cannæ, declaring, that to expel the enemy, and cure the people of an infectious difeafe, which then prevailed, facred games were to be annually performed in honour of Apollo; the prætor to have the direction of them, and the decemviri to offer facrifices after the grecian rite.

APOLLINARIANS, or APOLLINARISTS, in church hiftory, a fect of heretics who maintained, that Jefus Chrift had neither a rational human foul, or a true body.

APOLLONIA, in antiquity, an annual feftival celebrated by the Ægialians in honour of Apollo.

APOLOGETIC, or APOLOGETICAL, fomething faid or written in the manner of an apology. See APOLOGY.

APOLOGUE, in matters of literature, an ingenious method of conveying inftruction by means of a feigned relation, called a moral fable.

The only difference between a parable and an apologue is, that the former being drawn from what paffes among mankind, requires probability in the narration: whereas the apologue being taken from the fuppofed actions of brutes, or even of things inanimate, is not tied down to the ftrict rules of probability. Æfop's fables are a model of this kind of writing.

3 APO-

APOLOGY, ἀπολογια, a Greek term literally importing an excuse or defence, of some person, action, and the like; whether made by word of mouth, *viva voce*, or in writing.

APOMELI, among antient physicians, a decoction of honey and vinegar, much used as a detergent, promoter of stool, urine, *&c.*

APONEUROSIS, ἀπονευρωσις, among physicians, a term sometimes used to denote the expansion of a nerve or tendon in the manner of a membrane; sometimes for the cutting off a nerve; and, finally, for the tendon itself.

APOPHLEGMATIZANTS, in pharmacy, medicines proper to clear the head from superfluous phlegm, whether by spitting, or by the nose; and consequently comprehending masticatories, and sternutatories, or errhines.

APOPHTHEGM, ἀποφθεγμα, a short, sententious, and instructive remark pronounced by a person of distinguished character. Such are the apophthegms of Plutarch, and those of the antients collected by Lycosthenes.

APOPHYGE, in architecture, a concave, part or ring of a column, lying above or below the flat member. The French call it *le conge d'en bas*, or *d'en haut*; the Italians, *cavo de basso*, or *di sopra*, and also *il vivo di basso*.

The apophyge, originally, was no more than the ring, or ferril, at first fixed on the extremities of wooden pillars, to keep them from splitting; which, afterwards, was imitated in stone.

APOPHYSIS, in anatomy, an excrescence from the body of a bone, of which it is a true continuous part, as a branch is of a tree.

The apophyses take different names, with respect to their situation, use or figure; such are coracoides, mamellaris, mastoides, styloides, obliqua, recta, superficialis, *&c.* See CORACOIDES, *&c.*

The principal uses of the apophyses are, 1. To make the better articulations, whether these be intended to have motion, or to be fixed. 2. To afford a firm place of insertion for the muscles. And, 3. To defend the other parts.

APOPLECTIC, whatever relates or belongs to an apoplexy. Thus we say, an apoplectic fit. See the next article.

APOPLEXY, a distemper in which the patient is suddenly deprived of the exercise of all the senses, and of voluntary motion; while a strong pulse remains with a deep respiration, attended with a stertor, and the appearance of a profound sleep. This disorder arises from whatever cause is capable of preventing either totally or in part, the influx of the nervous fluid to the organs of sense, and the reflux of the same fluid from these organs to the common sensory in the brain. 1. The natural make of the body may dispose to an apoplexy, when a large head and short neck favour the congestion of blood and humours in the head; or a corpulent body renders the capillary arteries subject to compression. 2. It may be occasioned by polypous concretions in the carotid or vertebral arteries, or by an inflammatory siziness, and thick pituitous disposition of the whole mass of blood. 3. By an extravasation of the respective fluids contained in the arterial, nervous and lymphatic vessels; and, finally, by whatever obstructs the return of the blood from the vessels of the brain to the heart. Hence it appears that apoplexies are produced by various causes, and may properly enough be distinguished into sanguinous and pituitous, to which may be added serous, atrabilarious, polypous, *&c.*

An apoplexy may be foreseen from the frame of the body, from a knowledge of the predisposing causes; and from the first effects of these causes, as a tremor, vacillation, vertigo, stupor, deprivation of memory, and a frequent incubus. As to the cure and prevention of an apoplexy, no universal rules can be laid down; for the method of relief must vary, according to the predisposing causes and the parts principally affected. In general, however, it is necessary to procure evacuations by all possible means, by emetics, and by acrid clysters; and not to omit external topics to the head, which stimulate or resolve, of which kind blisters raised by cantharides are of the greatest service. During the fit, copious bleeding in the jugulars is to be used, strong volatiles to be applied to the nose, and the temples rubbed with cephalic mixtures. Arteriotomy, scarification of the occiput, and the actual cautery, are also recommended.

APORRHOEA, a term used by some writers, to denote any kind of effluvia. See the article EFFLUVIUM.

APOSIOPESIS, ἀποσιωπησις, in rhetoric, the suppressing, or omitting to relate a

 part

part of the ſubject: thus the poet paſſes off the circumſtance of Dido's killing herſelf.

Dixerat, atque illam media inter talia ferro
Collapſam adſpiciunt.

APOSTACY, the abandoning the true religion. The primitive chriſtian church diſtinguiſhed ſeveral kinds of apoſtacy. The firſt of thoſe who went over intirely from chriſtianity to judaiſm; the ſecond of thoſe who mingled judaiſm and chriſtianity together; and the third of thoſe who complied ſo far with the Jews, as to communicate with them in many of their unlawful practices, without making a formal profeſſion of their religion. But the fourth ſort was of thoſe who, after having been ſometime chriſtians, voluntarily relapſed into paganiſm.

APOSTATE, one who deſerts his religion. Among the romaniſts, it ſignifies a man who, without a legal diſpenſation, forſakes a religious order of which he had made profeſſion. Hence,

APOSTATA CAPIENDA, in the Engliſh law, a writ that formerly lay againſt a perſon who having entered into ſome order of religion, broke out again, and wandered up and down the country.

A POSTERIORI, or *demonſtration* A POSTERIORI. See the article DEMONSTRATION.

APOSTHUME, or APOSTEM, ἀπόςημα, the ſame with abſceſs. See ABSCESS.

APOSTIL, *apoſtilla*, in matters of literature, the ſame with a marginal note.

APOSTLE, ἀπόςολος, properly ſignifies a meſſenger or perſon ſent by another upon ſome buſineſs; and hence, by way of eminence, denotes one of the twelve diſciples, commiſſioned by Jeſus Chriſt to preach the goſpel.

The apoſtles are uſually repreſented with their reſpective badges: thus, Peter is painted with the keys; Paul, with a ſword; Andrew, with a croſs; James the greater, with a pilgrim's ſtaff, and a gourd-bottle; James the leſs, with a fuller's pole; John, with a cup and a winged ſerpent flying out of it; Bartholomew, with a knife; Philip, with a long ſtaff, the upper end of which is formed into a croſs; Thomas, with a lance; Matthew, with a hatchet; Mathias, with a battle-ax; Simon, with a ſaw; and Jude, with a club.

APOSTLES-*Creed*. See the article CREED.

APOSTOLIC, or APOSTOLICAL, ſomething connected with, or derived from, the apoſtles. See the article APOSTLE.

APOSTOLICI, an early ſect of chriſtians, who pretended to lead their lives in imitation of the apoſtles. They condemned marriage.

APOSTROPHE, in rhetoric, a figure by which the orator, in a vehement commotion, turns himſelf on all ſides, and applies to the living and dead, to angels and to men, to rocks, groves, &c. Thus Adam in Milton's *Paradiſe loſt*,

O woods, O fountains, hillocks, dales, and bowers,
With other echo, &c.

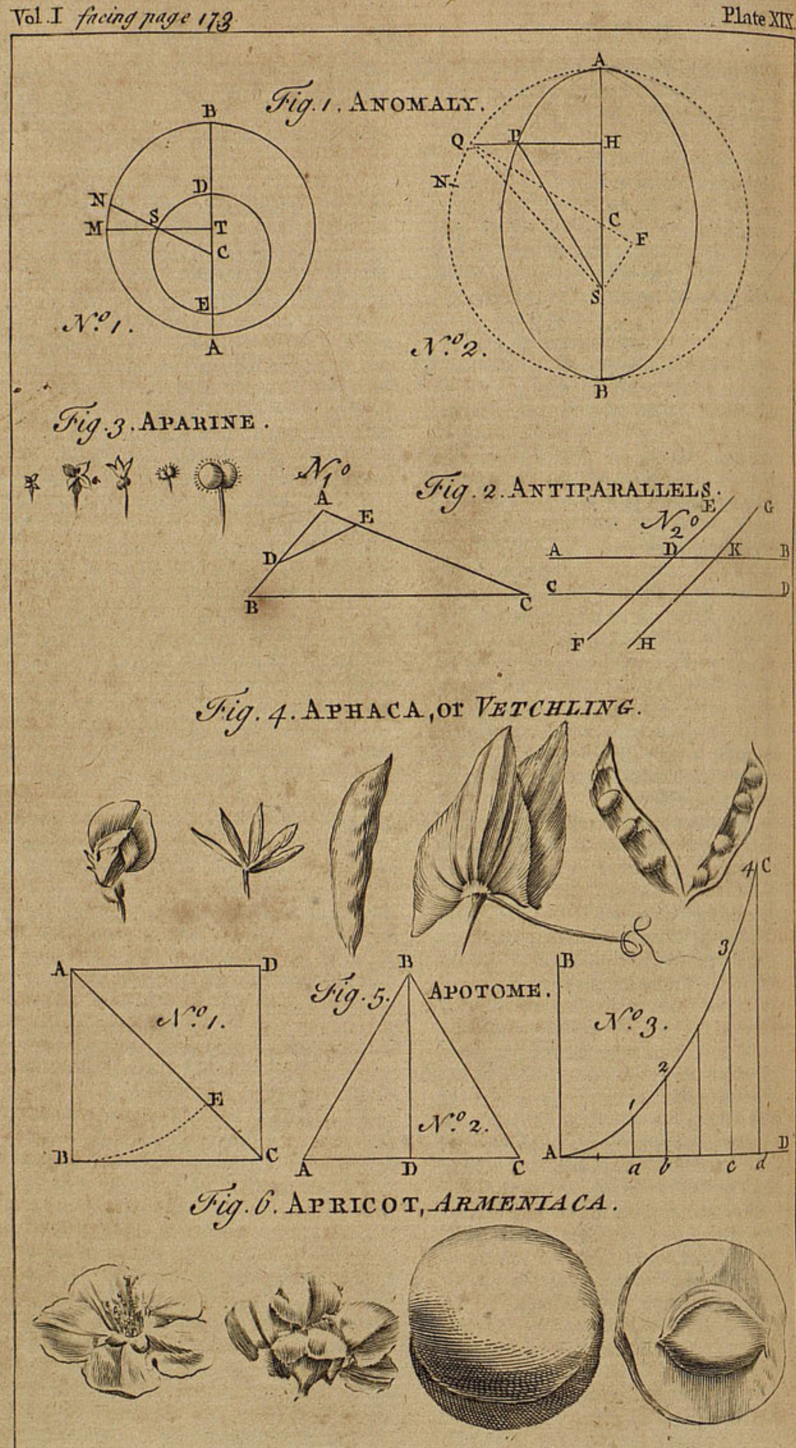
APOSTROPHE, in grammar, a mark placed over a letter to ſhew that a vowel is cut off, as *call'd* for *called*, *th' audience* for *the audience*.

APOTACTITES, in church hiſtory, a name given to the apoſtolici, from the ſhew they made of renouncing the world, more than other men. See APOSTOLICI.

APOTHECARY, one who practiſes the art of pharmacy.

This is a genteel buſineſs, and has been in great vogue of late years; there being, as is computed, upwards of a thouſand in and about London. A youth intended for this profeſſion, ſhould be a pretty good ſcholar, and have ſuch a knowledge in the Latin tongue, as to be able to read the beſt writers upon the ſubject of botany, pharmacy, anatomy, and medicine. In London, the apothecaries are one of the city companies, and by an act which was made perpetual in the ninth year of George I. are exempted from ſerving upon juries, or in ward and pariſh offices. They are obliged to make up their medicines according to the formulas preſcribed in the college diſpenſatory, and are liable to have their ſhops viſited by the cenſors of the college, who are impowered to deſtroy ſuch medicines as they think not good.

APOTHEOSIS, in antiquity, a ceremony by which the antient Romans complimented their emperors and great men after their death, with a place among the gods. It is deſcribed as follows. After the body of the deceaſed had been burnt with the uſual ſolemnities, an image of wax, exactly reſembling him, was placed on an ivory couch, where it lay for ſeven days, attended by the ſenate and ladies of the higheſt quality in mourning; and then the young ſenators and knights bore the bed of ſtate thro' the *via ſacra* to the old *forum*, and from thence to the *campus martius*, where it was depoſited upon an edifice built in form of a pyramid. The bed being thus placed, amidſt a quantity of



T. Jefferys sculp.

of ſpices and other combuſtibles, and the knights having made a proceſſion in ſolemn meaſure round the pile, the new emperor, with a torch in his hand, ſet fire to it, whilſt an eagle, let fly from the top of the building, and mounting in the air with a firebrand, was ſuppoſed to convey the ſoul of the deceaſed to heaven, and thenceforward he was ranked among the gods.

APOTOME, in geometry, the difference between two incommenſurable lines: thus, E C, (plate XIX. fig. 5. N°. 1.) is the apotome of A C and A B.

If we ſuppoſe A C$=a$, and A B$=b$, then will their apotome be $a-\sqrt{b}$; or, in numbers, $2-\sqrt{3}$. Hence alſo the difference between the ſide A C$=2$(*ibid.* N°. 2.) of an equilateral triangle A B C, and the perpendicular B D$=\sqrt{3}$. is an apotome, *viz.* $=2-\sqrt{3}$, And, univerſally, if A C (*ibid.* N°. 3.) be a ſemi-parabola, whoſe axis is A B, and its latus rectum $=1$, and if A D be a tangent to the vertex at A, and this be divided into the parts A$a=2$, A$b=3$, A$c=5$, A$d=6$, &c. and perpendiculars $a\,1$, $b\,2$, $c\,3$, $d\,4$, &c. be drawn, theſe will be, from the nature of the curve, $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{6}$, &c. reſpectively; and ſo $\frac{1}{2}$Aa ($=1$)$-a\,1$, will be $1-\sqrt{2}$; A$a-b\,2$ will be $2-\sqrt{3}$, &c. by which means you will have an infinite ſeries of different apotomes.

APOTOME, in muſic, the difference between a greater and leſſer ſemi-tone, expreſſed by the ratio 128 : 125.

APOZEM, a medicine; the ſame with decoction. See the article DECOCTION.

APPARATUS, a term uſed to denote a complete ſet of inſtruments, or other utenſils, belonging to any artiſt or machine: thus we ſay a ſurgeon's apparatus, a chemiſt's apparatus, the apparatus of the air-pump, microſcope, &c.

APPARENT, in a general ſenſe, ſomething that is viſible to the eyes, or obvious to the underſtanding.

APPARENT, among mathematicians and aſtronomers, denotes things as they appear to us, in contradiſtinction from real or true: thus we ſay, the apparent diameter, diſtance, magnitude, place, figure, &c. of bodies. See the articles DIAMETER, DISTANCE, &c.

APPARENT motion. See MOTION.

APPARITION, in a general ſenſe, denotes ſimply the appearance of a thing.

APPARITION, in a more limited ſenſe, is uſed for a ſpectre, ghoſt, or the like præternatural appearance: thus we read of apparitions of angels, departed ſouls, &c. Several inſtances of apparitions occur in the Bible; that of Samuel, raiſed by the witch of Endor, has occaſioned great diſputes. We find great controverſies among authors, in relation to the reality, the exiſtence or non-exiſtence, the poſſibility or impoſſibility of apparitions. The Chaldeans, the Jews and other nations have been the ſteady aſſerters of the belief of apparitions. The diſbelief of ſpirits and apparitions, is by ſome made one of the marks of infidelity, if not of atheiſm. Many of the apparitions, we are told of in writers, are doubtleſs mere deluſions of the ſenſe; many others were ſeen but in dreams or deliquiums; many others are fictions contrived merely to amuſe, or anſwer ſome purpoſe. Apparitions it is certain are machines that on occaſion have been of good ſervice both to generals, to miniſters of ſtate, to prieſts and others. It has been controverted whether an apparition be any proof of a future ſtate.

The abbé de St. Pierre has a diſcourſe expreſs on the phyſical method of ſolving or accounting for apparitions; he makes them the effect of feveriſh dreams, diſturbed imaginations, &c.

APPARITION, in aſtronomy, ſignifies a ſtar or other luminary's becoming viſible, which before was hid. It ſtands oppoſed to occultation.

Circle of perpetual APPARITION. See the article CIRCLE, &c.

APPARITOR, among the Romans, a general term to comprehend all attendants of judges and magiſtrates appointed to receive and execute their orders. Apparitor, with us, is a meſſenger, that ſerves the proceſs of a ſpiritual court, or a beadle in an univerſity, who carries the mace. See the article BEADLE.

APPAUMEE, in heraldry, denotes one hand extended with the full palm appearing, and the thumb and fingers at full length.

APPEAL, in law, the removal of a cauſe from an inferior to a ſuperior court or judge, when a perſon thinks himſelf aggrieved by the ſentence of the inferior judge. Appeals lie from all the ordinary courts of juſtice to the houſe of lords. In eccleſiaſtical cauſes, if an appeal is brought before a biſhop, it may be removed to the archbiſhop; if before an archdeacon, to the court of arches, and

and thence to the archbiſhop; and from the archbiſhop's court to the king in chancery.

Appeal, in common law, is taken for the accuſation of a murderer by a perſon who had intereſt in the party killed; or of a felon by an accomplice. It is proſecuted either by writ or by bill: by writ, when a writ is purchaſed out of the chancery by one perſon againſt another, commanding him to appeal ſome third perſon of felony, and to find pledges for doing it effectually; by bill, when the perſon himſelf gives in his accuſation in writing, offering to undergo the burden of appealing the perſon therein named.

Appeal of maim is the accuſing one that has maimed another.

Appeal of rape lies where any woman is raviſhed. Theſe laſt are now much diſuſed, but the appeal of murder is frequently brought.

APPEARANCE, in a general ſenſe, the exterior ſurface of a thing, or that which immediately ſtrikes the ſenſe, or the imagination.

Appearance, in law, ſignifies a defendant's filing a common or ſpecial bail, on any proceſs iſſued out of a court of judicature. In actions by original, appearances are entered with the philazer of the county; and by bill, with the prothonotary.

In perſpective, appearance is the projection of a figure or body on the perſpective plane. In optics, direct appearance is the ſight of any object by direct rays, without refraction or reflection.

In aſtronomy, appearance ſignifies the ſame as phænomena or phaſes; and in phyſiology, the ſame as phaſmata. See the articles Perspective, Phænomenon, Phasmata, &c.

APPEASING medicines, the ſame with paregorics or anodynes. See the article Anodyne.

APPELLANT, in a general ſenſe, one who appeals. See the article Appeal.

Appellants, in church-hiſtory, an appellation given to ſuch of the roman catholic clergy, as appeal from the conſtitution *unigenitus*, to a general council.

APPELLATIVE, in grammar, a noun, or name, which is applicable to a whole ſpecies or kind, as *man*, *horſe*; in contradiſtinction to a proper name. See the articles Noun, Name, and General Terms.

APPELLEE, among lawyers, the perſon againſt whom an appeal is brought. See the article Appeal.

APPENNAGE. See the article Apanage.

APPENDANT, in law, any thing that is inheritable, belonging to ſome more worthy inheritance; as an advowſon, common, or court, may be appendant to a manor, land to an office, &c. but land cannot be appendant to land, for both are corporeal inheritances, and one thing corporeal cannot be appendant to another.

APPENDICULA *Vermiformis*, in anatomy. On one ſide of the bottom of the cæcum lies an appendix, reſembling a ſmall inteſtine, nearly of the ſame length with the cæcum, but very ſlender. It is termed appendicula vermiformis from its ſuppoſed reſemblance to an earth-worm. Its common diameter is about a quarter of an inch. By one extremity it opens laterally, and a little obliquely, into the bottom of the cæcum; and the other extremity is cloſed, being ſometimes greater, and ſometimes ſmaller, than the reſt of the appendix.

It has ſome contortions like thoſe of a worm when it is touched, from whence comes the epithet of vermicularis, or vermiformis; and it may likewiſe be compared to the gills or pendants of a turky cock. In ſtructure it nearly reſembles that of the other inteſtines. The internal coat of this appendix is folliculous, like that of the duodenum; and it is likewiſe reticular, the maſhes being the glandular lacunæ, which continually diſcharge a fluid into its cavity.

It has been often diſputed whether this appendix, or the large portion, which is, as it were, the head of the colon, ought to be called the cæcum; but the general diviſion of the inteſtines into great and ſmall leaves no doubt of its being only an appendix in man, whatever reaſon there may be for talking differently with reſpect to brutes and birds.

APPENDIX, in literature, a treatiſe added at the end of a work, to render it more complete. See Supplement.

Appendix, in anatomy, the ſame with *epiphyſis*. See the article Epiphysis.

APPETITE, *appetitus*, in a general ſenſe, the deſire of enjoying ſome object, ſuppoſed to be conducive to our happineſs. When this inclination is guided by reaſon, and proportioned to the intrinſic value of the object, it is called rational appetite; as, on the other hand, it is denominated ſenſitive appetite, when we have only a blind propenſity to a thing, without determinate ideas of the good qualities for which we deſire it.

APPETITE, in medicine, a certain painful or uneasy sensation, always accompanied with a desire to eat or drink.

An excessive appetite is called by physicians bulimy, or *fames canina*; a defect or loss of it, anorexy; and that after things improper for food, pica. See the articles BULIMY, ANOREXY, &c.

APPLAUSE, *applausus*, or *plausus*, an approbation of something signified by clapping the hands; in which sense it is still practised in colleges and theatres.

APPLE, a well-known fruit, consisting of a rind, pill, or skin; the pulp, or parenchyma; the branchery, or seed-vessels; and the coare.

The apple is not only used as food, but likewise for making cyder. See CYDER.

APPLE is also an appellation given to several fruits, on account of their resemblance to the common apple: such are the bitter-apple, love-apple, mad-apple, &c. See the article BITTER-APPLE, &c.

APPLE *of the eye*, a name not unfrequently given to the pupil. See the articles EYE and PUPIL.

APPLEBY, the chief town of the county of Westmoreland, situated on the river Eden, in 2° 26′ west longitude, and 54° 30′ north latitude. It sends two members to parliament.

APPLICATE, or *Ordinate* APPLICATE, in geometry. See ORDINATES.

APPLICATION, in a general sense, is the laying two things together, in order to discover their agreement or disagreement.

APPLICATION, in geometry, is used either for division; for the fitting or applying one quantity to another, whose areas, but not figures, shall be the same; or for transferring a given line into a circle, or other figure, so that its ends shall be in the perimeter of the figure.

APPLICATION, among divines, a term used to signify the same as imputation. See the article IMPUTATION.

APPLY, or APPLYING, in geometry. See the article APPLICATION.

APPOGIATURA, in music, a small note inserted by the practical musician, between two others, at some distance.

APPOINTE'E, a foot soldier, or officer in the french army, who receives a greater pay than others of the same rank, in consideration of his valour or long service.

APPOINTE'E, in heraldry, the same as aguisée: thus we say, a cross appointée, to signify that which has two angles at the end cut off, so as to terminate in points.

APPOINTMENT, a pension given by princes and noblemen to retain certain persons in their service. See PENSION.

APPORTIONMENT, in law, the division of a rent into parts, in the same manner as the land out of which it issues is divided: for example, if a person leases three acres of land for a certain rent, and afterwards grants away one acre thereof to another: the rent shall be apportioned between them. Conditions, however, are generally entire, and cannot be apportioned by an act of the party; neither can a contract be divided or apportioned so as to subject a man to two actions.

APPOSAL *of sheriffs* signifies the charging them with money received on their accounts in the exchequer. See the article SHERIFF.

APPOSITION, in general, is the putting one thing by the side of another.

APPOSITION, in grammar, the placing two or more substantives together, in the same case, without any copulative conjunction between them; as, *ardebat Alexim delicias domini*.

APPRAISING, the valuing or setting a price on goods. This is usually done by a sworn appraiser, who, if he values the goods too high, is obliged to take them at the price appraised.

APPREHENSION, in logic, the first or most simple act of the mind, whereby it perceives, or is conscious of some idea: it is more usually called perception. See the article PERCEPTION.

APPREHENSION, in law, is the seizing a criminal, in order to bring him to justice.

APPRENTICE, a young person bound by indenture to some tradesman, in order to be instructed in the mystery or trade. By the laws of England, a master may be indicted for not providing for, or for turning away his apprentice: and upon complaint from a master, that he neglects his duty, an apprentice may be committed to Bridewell, or be bound over to the sessions. A duty of 6 d. in the pound is granted for every sum of 50 l. or under, and 12 d. in the pound for sums exceeding 50 l. given with all apprentices, except such as are placed out by church-wardens, &c.

APPRENTICESHIP signifies either the condition of an apprentice, or the time he is bound to serve.

APPROACH, or APPROACHING, in a general sense, the acceding or coming together of two or more things.

APPROACHES, in fortification, the works thrown

thrown up by the befiegers, in or order to get nearer a fortrefs, without being expofed to the enemies cannon: fuch, in a more particular manner, are the trenches, which fhould be connected by parallels, or lines of communication.

The befieged frequently make counter-approaches, to interrupt and defeat the enemies approaches. See the article COUNTER-APPROACHES.

APPROACHING, in gardening, the inoculating, or ingrafting the fprig of one tree into another, without cutting it off from the parent-tree. This is alfo called inarching. See the article INARCHING.

APPROACHING, in fowling, a method of getting near the birds by means of a machine, made of hoops and boughs of trees, within which the fportfman conceals himfelf.

APPROBATION, is defined by Mr. Hutchefon, a ftate or difpofition of the mind wherein we put a value upon, or become pleafed with fome perfon or thing.

Moralifts are divided on the principle of approbation, or the motive which determines us to approve and difapprove. The Epicureans will have it to be only felf-intereft; according to them, that which determines any agent to approve his own action, is its apparent tendency to his private happinefs; and even the approbation of another's action flows from no other caufe but an opinion of its tendency to the happinefs of the approver, either immediately or remotely. Others refolve approbation into a moral fenfe, or a principle of benevolence by which we are determined to approve every kind affection either in ourfelves or others, and and all publicly ufeful actions, which we imagine to flow from fuch affection, without any view therein to our own private happinefs.

APPROPRIARE COMMUNAM, in law, is to difcommon; that is, to inclofe any parcel of land, that before was open and common. See the article COMMON.

APPROPRIARE AD HONOREM, to bring a manor within the liberty of an honour. See the article MANOR and HONOUR.

APPROPRIATE, in law. See the next article.

APPROPRIATION, the annexing a benefice to the proper and perpetual ufe of a religious houfe, bifhopric, college, &c. Where the king is patron, he may make appropriations himfelf; but in other cafes, after obtaining his licence in chancery, the confent of the ordinary, patron, and incumbent is requifite. Appropriations cannot be affigned over, but thofe to whom they are granted may make leafes of the profits.

APPROVEMENT, among old writers, is generally taken for the fame as improvement; but in law is more particularly ufed for the inclofing part of a common by the lord of the manor.

If, however, there be not fufficient common left for the tenant, he may have a writ of affize and recover triple damages: in fuch a cafe alfo a commoner may break down the inclofures.

APPROVER, in law, one who, confeffing that he has committed a felony, accufes one or more of his accomplices. Approvers, moreover, fignify bailiffs of lords in their franchifes, fheriffs, and likewife fuch perfons as have the letting the king's demefnes in fmall manors. See BAILIFF, SHERIFF, DEMESNE.

APPROXIMATION, in arithmetic and algebra, the coming nearer and nearer to a root, or other quantity fought, without expecting to be ever able to find it exactly. There are feveral methods for doing this, to be found in mathematical books, being nothing but infinitely converging feries, fome approaching quicker, others flower towards the truth.

By fuch an approximation the value of a quantity may be found, though not to the utmoft degree of exactnefs, yet fufficiently fo for practice. Thus $\sqrt{2} = 1.41421356$, &c. = the approximating feries $1 + \frac{4}{10} + \frac{1}{100} + \frac{4}{1000} + \frac{2}{10000} +$, &c. or fuppofing $x = \frac{1}{10}$, equal to the feries $1 \times \frac{4}{x} + \frac{1}{x^2} + \frac{4}{x^3} + \frac{2}{x^4} +$, &c.

$= 1 + 4x^{-1} + x^{-2} + 4x^{-3} + 2x^{-4} +$, &c.

Again, fuppofing $a^2 + b$ to be a non-quadrate number, and $a^3 + b$ to be a non-cubic one; then will $\sqrt{a^2 + b} = a + \frac{ab}{2a^2 + \frac{1}{2}b}$, and $\sqrt[3]{a^3 + b} = a + \frac{ab}{3a^3 + b} = \frac{1}{2}a + \sqrt{\frac{1}{4}a^3 + \frac{b}{3a}}$ nearly.

There is a general method of inveftigating the value of fuch feries, for which See the article SERIES.

Mr. Mac-Laurin likewife delivers another method of approximation, viz. by the limits of the propofed equation. See the articles LIMIT and EQUATION.

APPUI, in the manege, the ſenſe of the action of the bridle in the horſeman's hand. Thus we ſay, a horſe has no appui, when he cannot ſuffer the bit to bear never ſo little upon the parts of the mouth. To give a horſe a good appui, he ſhould be galloped, and put often back.

APPULSE, in aſtronomy, the approach of a planet towards a conjunction with the ſun, or any of the fixed ſtars. See the article CONJUNCTION.

The appulſes of the planets to the fixed ſtars have always been of great uſe to aſtronomers in order to fix the places of the former. The antients wanting an eaſy method of comparing the planets with the ecliptic, which is not viſible, had ſcarce any other way of fixing their ſituations, but by obſerving their tract among the fixed ſtars, and remarking their appulſes to ſome of thoſe viſible points.

Dr. Halley has publiſhed a method of determining the places of the planets, by obſerving their near appulſes to the fixed ſtars.

APPURTENANCES, in common law, ſignify things corporeal and incorporeal, that appertain to another thing as principal; as hamlets to a manor, and common of paſture and fiſhery. Things muſt agree in nature and quality to be appurtenant, as a turbary, or a ſeat in a church, to a houſe.

APRICOT, or APRICOCK, *armeniaca*, in botany, a ſpecies of prunus, with roſaceous flowers, and a delicious fleſhy fruit, of a roundiſh figure. See plate XIX. fig. 6. and the article PRUNUS.

APRIL, *aprilis*, in chronology, the fourth month of the year, containing only thirty days.

A PRIORI, a kind of demonſtration. See the article DEMONSTRATION.

APRON, in gunnery, the piece of lead which covers the touch-hole of a cannon. See the article CANNON.

APSIS, in aſtronomy, a term uſed indifferently for either of the two points of a planet's orbit, where it is at the greateſt or leaſt diſtance from the ſun or earth. Hence the line connecting theſe points, is called the line of the apſides. See the articles ORBIT and PLANET.

APSIS, among eccleſiaſtical writers, denotes the inner part of the antient churches, anſwering to the modern choir.

APSIS is alſo uſed for the biſhop's throne, and ſometimes for the ambo. See the article AMBO.

APTE, a ſmall city of Provence, in France, ſituated about twenty-five miles north of Aix, in 5° 20′ eaſt longitude, and 43° 50′ north latitude.

APTERIA, in the linnæan ſyſtem of zoology, the ſeventh and laſt order of inſects, the diſtinguiſhing characteriſtic of which is, that the inſects comprehended in it, have no wings: ſuch are the louſe, the flea, the podura, the monoculus, the acarus, the ſpider, the ſcorpion, and the crab. See the articles LOUSE, FLEA, &c.

APTHANE, a title antiently given to the higheſt degrees of nobility in Scotland. See the article THANE.

APTITUDE, a term ſometimes uſed to ſignify the fitneſs of a thing, to anſwer a certain purpoſe.

APTITUDE, or APTNESS, in a more limited ſenſe, is uſed for quickneſs or readineſs of genius.

APTOTE, ἄπτωτον, among grammarians, an indeclinable noun, or one which has no variation of caſes, as *fas*, *nefas*, &c.

APULIA, in geography. The eaſt ſide of the kingdom of Naples, which lies along the gulph of Venice, went antiently by this name, but is now known by the name of Capitanata, Terra di Barri, and Otranto.

APUS, in aſtronomy, a conſtellation of the ſouthern hemiſphere placed near the pole, between the triangulum auſtrale, and the chameleon, ſuppoſed to repreſent the bird of paradiſe.

There are four ſtars of the ſixth, three of the fifth, and four of the fourth magnitude, in the conſtellation apus.

Dr. Halley, in 1677, obſerved the longitude and latitude of the ſtars in apus, which Hevelius in his prodromus reduced with ſome alteration to the year 1700.

P. Noel has alſo given the places of theſe ſtars, with their right aſcenſions and declinations for the year 1687: but his obſervations differ widely from thoſe of Dr. Halley. Hevelius has repreſented the figure of apus, and its ſtars, in his firmamentum ſobieſcianum, according to Halley's account; Noel has done the like, according to his own account. Wolfius, with what juſtice we will not pretend to ſay, gives the preference to this laſt.

APYCNOS, in muſic, is ſaid of the diatonic genus, on account of its having ſpacious intervals, in compariſon of the chromatic and enharmonic. See the articles DIATONIC, CHROMATIC, &c.

APYREXY, ἀπυρεξία, among phyſicians, denotes the intermiſſion of a fever.

AQUA, WATER, a term frequently met with

with in the writings of phyficians, chemifts, &c. for certain medicines, or menftruums, in a liquid form, diftinguifhed from each other by peculiar epithets, as *aqua alexiteria*, *aqua aluminofa*, *aqua fortis*, &c.

AQUA ALEXITERIA, a water diftilled from mint, fea-wormwood, and angelica; and faid to be good in malignant and peftilential cafes.

AQUA ALUMINOSA, ALUM-WATER, a folution of alum and white vitriol; efteemed good in ulcers and cutaneous eruptions.

AQUA FORTIS, a corrofive liquor, being the red fumes which arife in diftilling nitre and vitriol. This is a menftruum for diffolving all metals, except gold. It is ufed by dyers in dying fcarlet; by refiners, for parting filver from gold; by book-binders, to marble the covers of books; by diamond-cutters, to feparate diamonds from metalline powders; by engravers, for etching on copper or brafs plates; by workers in mofaic work, and alfo for ftaining woods, bone, ivory, &c.

AQUA MARINA, or AQUA MARINE, a name by which the jewellers call the beryl, on account of its fea-green colour. See the article BERYL.

AQUA MERCURIALIS, a folution of fublimate of mercury, and a little mercury, in *aqua regia*; by means of which the alchemifts pretend to reduce all metals to their firft principle, mercury.

AQUA OMNIUM FLORUM, in pharmacy, the water diftilled from the dung of cows, when they go to grafs: in englifh, all-flower-water.

AQUÆ PAVOR, in medicine. See the article HYDROPHOBIA.

AQUA REGIA, a kind of *aqua fortis*, or acid fpirit, in which there is a fmall proportion of fea-falt. It is prepared feveral ways: the moft common method is, by mixing common falt, fal gem, or fal ammoniac, whether native or factitious, with *aqua fortis*, or fpirit of nitre. But as the bafis, or effential ingredient is common or fea-falt, this will always anfwer the purpofe, in whatever form applied, whether as a fluid or a folid, a liquor or a fpirit.

Aqua regia is fo called, becaufe it diffolves gold: it will alfo diffolve iron, copper, tin, mercury, regulus of antimony, bifmuth, and zink. It does not at all affect filver, provided the fea-falt be mixed in a due proportion; but if the quantity is too fmall, it then corrodes the filver.

AQUA SECUNDA, denotes *aqua fortis*, which has been ufed to diffolve fome metal.

AQUA SULPHURATA, the fame with *gas fulphuris*. See the article GAS.

AQUA VITÆ, the WATER OF LIFE, a name given to malt fpirits, in contradiftinction from brandy. See the articles BRANDY and SPIRIT.

AQUA VITRIOLICA COERULEA, a folution of blue vitriol and alum, with fome fpirit of vitriol, in water; recommended in inflammatory and putrid cafes.

AQUÆDUCT, in hydraulics and architecture, a conveyance made for carrying water from one place to another. Thofe of the antient romans were furprifingly magnificent. That which Lewis XIV. built near Maintenon, for carrying the Bucq to Verfailles, is perhaps the greateft now in the world: it is feven thoufand fathoms long, with two thoufand five hundred and fixty fathoms of elevation, and contains two hundred and forty-two arcades.

AQUÆDUCT, in anatomy, a term applied by anatomifts, to certain canals, on account of their form or ufe: fuch are the aquæduct of Fallopius, a canal fituated between the apophyfes ftyloides, and maftoides; the aquæduct of Nuck, in the fclerotic coat of the eye; and the aquæduct of Sylvius, in the brain, the pofterior furface of which is called its anus. See STYLOIDES, SCLEROTICA, &c.

AQUARIANS, *aquarii*, in church-hiftory, an antient fect of heretics, who, under pretence of abftinence, made ufe of water inftead of wine in the eucharift.

AQUARIUS, in aftronomy, a conftellation, which makes the eleventh fign in the Zodiac, marked thus, ♒. It confifts of forty-five ftars in Ptolemy's catalogue, of forty in Tycho's, and in the Britannic catalogue of ninety-nine. It was called Aquarius, or the water-bearer, as fome fay, becaufe, during the fun's motion through this fign, it is generally rainy weather.—The poets tell us that Jupiter, having ravifhed Ganymede, carried her away into heaven, to ferve as cup-bearer in the room of Hebe and Vulcan; whence the name.

AQUATIC, in natural hiftory, an appellation given to fuch things as live or grow in the water: thus we fay, aquatic animals, aquatic plants, &c.

AQUEDUCT,

AQUEDUCT, the fame with aquæduct. See the AQUÆDUCT.

AQUELEIA, a patriarchal city of Italy, near the end of the gulph of Venice, fituated in 13° 30′ eaft long. and 46° 20′ north latitude.

AQUEOUS, *aquofus*, in a general fenfe, fomething partaking of the nature of water, or that abounds with it: thus we fay, aqueous baths, ducts, &c. See the articles BATH and DUCT.

AQUEOUS HUMOUR, in anatomy, called alfo the albugineous humour, is the utmoft of the three humours of the eye, and fills up both its cameræ. In this the uvea fluctuates as it were, and moves at liberty; this humour alfo, when loft, will be repaired by nature.

AQUIFOLIUM, HOLLY, in botany. See plate XX. fig. 2. and the article HOLLY.

AQUILA, the EAGLE, in ornithology, See the article EAGLE.

AQUILA, in aftronomy, a conftellation of the northern hemifphere, confifting of fifteen ftars in Ptolemy's catalogue, of feventeen in Tycho's, and of feventy in the Britannic catalogue.

AQUILA, in geography, a large city of Abruzzo, in the kingdom of Naples, fituated in 14° 20′ eaft longit. and 42° 40′ north latitude.

AQUILEGIA, COLUMBINE, in botany, a genus of the polyandria pentagynia clafs of plants, having no calyx: the corolla confifts of five plane, patent, equal petals, of a lanceolate, ovate figure; the nectaria are five in number; they are equal, and ftand alternately with the petals: the fruit confifts of five ftrait, parallel, cylindric, accuminated capfules, each of which confifts of a fingle valve. The feeds are numerous, oval, carinated, and adhere to the future. See plate XX. fig. 1.

Aquilegia is recommended in diforders of the breaft and lungs, in malignant cafes, the menfes, &c.

AQUILICIUM, or AQUILICIANA, in roman antiquity, facrifices performed in times of exceffive drought, to obtain rain of the gods.

AQUILINE, fomething belonging to, or refembling an eagle: thus, an aquiline nofe is one bent fomewhat like an eagle's beak.

AQUINO, a ruinous city in the province of Lavoro, in the kingdom of Naples, fituated in 14° 30′ eaft longitude, and 41° 30′ north latitude.

AQUOSE, the fame with aqueous. See the article AQUEOUS.

ARA, in aftronomy, a fouthern conftellation, confifting of eight ftars.

ARABET, a town of turkifh Tartary, fituated near the Palus Mœotis. It is fortified with two caftles, and is the place where the kan keeps his ftud of horfes, which are reckoned to be about feven thoufand in number.

ARABIA, a large country of Afia, having Turky on the north, Perfia and the gulph of Perfia on the eaft, the indian ocean on the fouth, and the Red-fea and ifthmus of Suez on the weft; and fituated between 35° and 60° eaft longitude, and between 12° and 30° north latitude.

Arabia, though fubject to a great many different princes, is only confidered by geographers as fubdivided into the three grand divifions of Arabia Felix, Arabia Deferta, and Arabia Petrea.

ARABIAN, or ARABIC, in a general fenfe, fomething belonging to Arabia: thus we fay, arabian characters, arabian language, &c.

Gum ARABIC, the name of a gum which diftils from a fpecies of acacia, growing in Arabia and Egypt. It is very common among us, but little is to be met with genuine: that is accounted the beft which is in fmaller pieces, and almoft of a white colour. It is good in all kinds of fluxes, particularly catarrhs.

ARABICI, a fect of heretics, who held that the foul both dies and rifes again with the body.

ARABIS, in botany, a genus of the tetradynamia filiquofa clafs of plants, the calyx of which is a deciduous perianthium, confifting of four ovato-oblong, acute, gibbous, concave leaves; the corolla confifts of four oval, patent, cruciform petals: the fruit is a very long compreffed pod, containing feveral roundifh compreffed feeds.

ARABISM, in matters of language, an idiom peculiar to the arabian language.

ARABLE LANDS, thofe which are fit for tillage, or which have been formerly tilled.

ARAC, ARRAC, or RACK. See the article RACK.

ARACAN, the capital city of a fmall kingdom, fituated on the north-eaft part of the gulph of Bengal, in 93° eaft long. and 20° 30′ north lat.

ARACARI, in ornithology, a brafilian bird of the *picæ* or magpye kind. The aracari is a fpecies of ramphaftos with a red rump. See plate XX. fig. 3.

ARACHIS, in botany, a genus of the diadelphia-decandria clafs of plants, the

flower of which is papilionaceous, and consists of three petals; and its fruit is an oblong unilocular pod, contracted in the middle, and containing two oblong, obtuse, and gibbous seeds.

ARACHNOIDES, in zoology, a name given to those *echini marini*, or sea-hedgehogs, which are of a circular form, but variously indented at the edges. See the article ECHINUS.

ARACHNOIDES, in anatomy, an appellation given to several different membranes, as the tunic of the crystalline humour of the eye, the external lamina of the pia mater and one of the coverings of the spinal marrow.

ARÆOMETER, an instrument to measure the gravity of liquors, which is usually made of a thin glass ball, with a taper neck, sealed at the top, there being first as much mercury put into it as will keep it swimming in an exact posture. The neck is divided into parts, which are numbered, so that by the depths of its descent into any liquor, its lightness may be known by these divisions. The reader will find this instrument more particularly described under the article HYDROMETER.

ARÆOPAGUS, or AREOPAGUS. See the article AREOPAGUS.

ARÆOSTYLE, in architecture, a term used by Vitruvius, to signify the greatest interval which can be made between columns, which consists of eight modules, or four diameters. See MODULE.

ARÆOTICS, in medicine, remedies which rarefy the humours, and render them easy to be carried off by the pores of the skin.

ARAFAT, a mountain of Arabia, near Mecca, where the mahometans believe that Abraham offered to sacrifice Isaac.

ARAGON, a province of Spain, having Biscay and the Pyrenean mountains on the north, Catalonia on the east, Valencia on the south, and the two Castiles on the west.

ARAIGNEE, in fortification, signifies the branch, return, or gallery of a mine. See the article MINE.

ARALIA, BERRY BEARING ANGELICA, in botany, a genus of the pentandria pentagynia class of plants, the flowers of which are collected into an umbel, of a globose figure, with a very small involucrum; the perianthium is very small, divided into five parts, and placed on the germen; the corolla consists of five, ovato-acute, sessile, reflex petals: the fruit is a roundish, coronated, striated berry; having five cells: the seeds are single, hard, and oblong.

ARANEA TUNICA, or ARANEOSA. See the article ARACHNOIDES.

ARANEUS, the SPIDER, in zoology. See the article SPIDER.

ARANJUEZ, a palace belonging to the king of Spain, beautifully situated on the bank of the Tagus, about fifteen or sixteen miles eastward of Madrid.

ARARAT, the antient name for part of mount Caucasus, between the Euxine and Caspian seas.

ARAUCO, a city of Chili, in south America, situated on a river of the same name, in 78° west lon. and 37° south lat.

ARBE, an island in the gulph of Venice, situated near the coast of Morlachia, in 16° east long. and 45° north lat.

ARBITER, in civil law, a judge nominated by the magistrate, or chosen voluntarily by two parties, in order to decide their differences according to law.

The civilians make this difference between arbiter and arbitrator: though both ground their power on the compromise of the parties, yet their liberty is different, for an arbiter is to judge according to the usages of the law, but the arbitrator is permitted to use his own discretion, and accommodate the difference in the manner that appears to him most just and equitable.

ARBITRAGE, the same with arbitration. See the article ARBITRATION.

ARBITRARY, that which is left to the choice or determination of men, or not fixed by any positive law or injunction: thus arbitrary fines, are mulcts imposed at the pleasure of the court or judge. See the article AMERCIAMENT.

ARBITRARY POWER. See DESPOTICAL.

ARBITRATION, ARBITRAGE, or ARBITREMENT, a power given by two or more contending parties to some person or persons to determine the dispute between them. There are five things incident to an arbitration: 1. Matter of controversy. 2. Submission. 3. Parties to the submission. 4. Arbitrators. 5. Giving up the arbitration. Matters relating to a freehold, debts due on bond, and criminal offences are not to be arbitrated.

ARBITRATOR, a private extraordinary judge, chosen by the mutual consent of parties, to determine controversies between them. Arbitrators are to award what is equal between both parties, and the performance must be lawful and possible. An action of debt may be brought

for money adjudged to be paid by arbitrators.

ARBITREMENT. See the article ARBITRATION.

ARBOIS, a town of Franch Compte, in France, situated in 5° 40′ east longitude, and 46° 50′ north latitude.

ARBON, a town of Swabia, in Germany, situated in 9° 30′ east long. and 47° 40′ north latitude.

ARBOR DIANÆ. See the article DIANÆ ARBOR.

ARBOR GENEALOGICA. See the article GENEALOGICA ARBOR.

ARBOR LUNÆ, or ARBOR PHILOSOPHICA, the same with *arbor dianæ*.

ARBOR SCIENTIÆ, a general distribution or scheme of science, or knowledge: such is that annexed to the *Introduction* to this *Dictionary*.

ARBOR, in mechanics, the principal part of a machine which serves to sustain the rest: also the axis or spindle on which a machine turns, as the arbor of a crane, windmill, &c. See the articles CRANE, WINDMILL, &c.

ARBOREOUS, something belonging to, or partaking of the nature of trees: thus mosses, &c. growing on trees, are called arboreous.

ARBORESCENT, a term applied to all such things as resemble trees, thus we read of arborescent shrubs, arborescent animals, &c. of which last kind is that great natural curiosity the star-fish.

ARBORIST, a person skilled in that part of botany, which treats of trees. See the article BOTANY.

ARBOUR, in gardening, a kind of shady bower, formerly in great esteem, but of late rejected, on account of its being damp and unwholesome.

Arbours are generally made of lattice-work, either in wood or iron, and covered with elms, limes, hornbeams; or with creepers, as honeysuckles, jasmines or passion flowers; either of which will answer the purpose very well, if rightly managed.

ARBUTUS, the STRAWBERRY-TREE, in botany, a genus of the decandria monogynia class of plants, the calyx of which is a very small obtuse, permanent perianthium, divided into five segments: the corolla consists of a single oval petal, divided also into five segments; the fruit is a roundish berry, containing five cells, and small osseous seeds. See plate XX. fig. 4.

ARC, ARK, or ARCH. See ARCH.

ARCA CORDIS, the same with *pericardium*. See the article PERICARDIUM.

ARCADIA, a sea-port town of european Turky, situated on the western coast of the Morea, in 22° east longit. and 37° 20′ north lat.

ARCANUM, among physicians, a kind of remedy, the preparation of which is industriously concealed, in order to enhance its value: at present there are three remarkable remedies which pass under that specious name, *viz.* *arcanum corallinum*, *arcanum duplicatum*, and *arcanum joviale*.

The *arcanum corallinum* is a preparation of red precipitate, made by distilling it with the spirit of nitre, and repeating the distillation, again and again, till a fine red powder be procured. This powder, boiled in water, and the water poured off, and tartarised spirit of wine put to the powder; two or three cohobations are made: which leave a powder much like the prince's powder; said to be of great service in the gout, dropsy, scurvy, &c. It operates chiefly by stool.

The *arcanum duplicatum* is prepared of the caput mortuum of aqua fortis, by dissolving it in hot water, filtrating and evaporating it to a cuticle; and then leaving it to shoot. This is said to be an admirable medicine in hypochondriacal cases, in continued and intermitting fevers, in the stone, scurvy, &c. and is extolled as a diuretic and sudorific.

The *arcanum joviale* is made of an amalgama of mercury and tin digested in spirit of nitre; the spirit being drawn off, the remaining matter is wetted with spirit of wine, and the spirit burnt away, and this for several times, till the pungent taste is wholly gone; the remainder is used much with the same intentions as the antihecticum Poterii. See the article ANTIHECTICS.

ARCBOUTANT, in building, an arched buttress. See the article BUTTRESS.

ARCH, in geometry, any part of the circumference of a circle, or curved line, lying from one point to another, by which the quantity of the whole circle or line, or some other thing sought after, may be gathered.

Similar ARCHES. If the arch B C (plate XX. fig. 5.) contains the same number of degrees as the arch D E; or if the radius A B is to the radius A D, as the arch B C to the arch D E; then these two arches are similar.

Equal

Equal Arches, thofe which contain the fame number of degrees, and whofe radii are equal.

Diurnal Arch, that part of a circle defcribed by a heavenly body, between its rifing and fetting; as the nocturnal arch is that defcribed between its fetting and rifing: both thefe together are always equal.

Arch *of progreffion*, or *direction*, an arch of the Zodiac, which a planet feems to pafs over, when its motion is according to the figns.

Arch *of retrogradation*, an arch of the Zodiac, defcribed by a planet, while it is retrograde, or moves contrary to the order of the figns.

Arch, in architecture, a concave building, with a mold bent in form of a curve, erected to fupport fome ftructure. Arches are either circular, elliptical, or ftrait, as they are improperly called by workmen. Circular arches are alfo of three kinds: 1. Semicircular, which have their center in the middle of a line drawn betwixt the feet of the arch. 2. Scheme, or fkene, which are lefs than a femicircle, containing fome ninety, and fome feventy degrees. 3. Arches of the third and fourth point, confifting of two arches of a circle meeting in an angle at the top, being drawn from the divifion of a chord into three or more parts at pleafure.

Elliptical arches confift of a femi-ellipfis, and have commonly a key-ftone and impofts: they are ufually defcribed by workmen on three centers.

Strait arches are thofe ufed over doors and windows, having plain ftrait edges, both upper and under, which are parallel, but both the ends and joints point towards a center.

Triumphal Arch, a ftately gate of a femicircular form, adorned with fculpture, infcriptions, &c. erected in honour of thofe who had deferved a triumph.

Arch is alfo ufed to denote the interval between two piers of a bridge. See Bridge.

ARCHÆUS, or Archeus. See Archeus.

ARCHANGEL, an angel occupying the eighth rank in the celeftial hierarchy. See the article Hierarchy.

Archangel, in botany, a name fometimes given to the lamium. See the article Lamium.

Archangel, in geography, a city of the province of Dwina, in Ruffia, fituated four miles from the white-fea, in 40° 12′ eaft long. and 64° 30′ north lat.

ARCHBISHOP, a prelate who has feveral fuffragan bifhops under him.

We have only two archbifhops in England; the archbifhop of Canterbury, who is primate of all England; and the archbifhop of York, who is only ftiled primate of England. The firft eftablifhment of archbifhops in England, according to Bede, was in the time of Lucius, faid to be the firft chriftian king in Britain; who, after the converfion of his fubjects, erected three archbifhoprics, *viz.* at London, York, and Landaff, then called Caerleon. The dignity of archbifhop continued in the fee of London 180 years, till it was tranflated, in the time of the Saxons, to that of Canterbury, where it has continued ever fince. And York continues ftill a metropolitan fee. The archbifhopric of Caerleon was tranflated to St. David's; but the plague raging very much in that country, it was removed to Doll in Bretagne, where that dignity terminated.

ARCHBISHOPRIC, in ecclefiaftical geography, a province fubject to the jurifdiction of an archbifhop.

ARCHBUTLER, one of the great officers of the german empire, who prefents the cup to the emperor, on folemn occafions. This office belongs to the king of Bohemia.

ARCHCHAMBERLAIN, an officer of the empire, much the fame with the great chamberlain in England. The elector of Brandenburg was appointed, by the golden bull, archchamberlain of the empire.

ARCHCHANCELLOR, an high officer, who, in antient times, prefided over the fecretaries of the court. Under the two firft races of the kings of France, when their territories were divided into Germany, Italy, and Arles, there were three archchancellors; and hence the three archchancellors ftill fubfifting in Germany, the archbifhop of Mentz being archchancellor of Germany, the archbifhop of Cologn of Italy, and the archbifhop of Treves of Arles.

ARCHCHANTOR, the prefident of the chantors of a church.

ARCHDEACON, an ecclefiaftical dignitary or officer, next to a bifhop, whofe jurifdiction extends either over the whole diocefe, or only a part of it.

We have fixty archdeacons in England, who vifit the parifhes fubject to their jurifdiction; enquire into abufes, fufpend, excommunicate, &c. They likewife induct all clerks into their benefices.

ARCHDUKE, a title given to dukes of greater authority and power than other dukes. The archduke of Auftria is among the moft antient: his principal privileges are, that he fhall diftribute juftice in his own country, without appeal; that he cannot be deprived of his countries, even by the emperor and the ftates of the empire; and that he have a power of creating counts, barons, *&c.* throughout the whole empire. See the article DUKE.

ARCHED, in a general fenfe, denotes fomething built or conftructed in the fafhion, or after the manner, of an arch.

ARCHED SKENE. See the article ARCH.

ARCHED LEGS, a fault in a horfe, when his knees are bended arch-wife.

This expreffion relates to the fore quarters, and the infirmity happens to fuch horfes as have their legs fpoiled with travelling.

ARCHER, in the antient military art, one who fought with bows and arrows.

The englifh archers were efteemed the beft in Europe, to whofe prowefs and dexterity the many victories over the French were in a great meafure owing.

ARCHES, or *Court of* ARCHES, the fupreme court belonging to the archbifhop of Canterbury, to which appeals lie from all the inferior courts within his province.

ARCHETYPE, the firft model of a work, which is copied after to make another like it. Among minters it is ufed for the ftandard weight by which the others are adjufted. The archetypal world, among platonifts, means the world as it exifted in the idea of God, before the vifible creation.

ARCHEUS, among chemifts, an obfcure term ufed generally to denote the predominating principle of things, whereby their peculiar qualities are fixed and determined.

ARCHILOCHIAN, a term in antient poetry applied to a fort of verfes, of which Archilochus was the inventor, confifting of feven feet, the four firft whereof are ordinarily dactyls, though fometimes fpondees, the three laft troches: as in Horace,

Solvitur acris hyems, gratâ vice veris & Favoni.

Thefe verfes are alfo called dactylic, becaufe of the four dactyls at the beginning. It is ufual to mix iambics of fix feet wanting a fyllable, alternately with Archilochians, as in the above ode.

ARCHIPELAGO, in geography, a general term for a fea interrupted with iflands; but more efpecially denoting that between Greece and Afia.

ARCHITECT, a perfon fkilled in architecture, who not only draws the plans of edifices, but fuperintends and directs the artificers.

ARCHITECTONIC, that which regularly produces a thing, according to its nature and properties.

Thus that power, whatever it be, which produces living creatures from the ova of females, is, by fome, called the architectonic fpirit.

ARCHITECTURE, the art or fcience of erecting edifices, whether for habitation or defence; and hence fubdivided into civil, military, and naval.

Civil ARCHITECTURE, called abfolutely, and by way of eminence, architecture, teaches how to make any kind of buildings, as palaces, churches, private houfes, *&c.* and the rules to be obferved in it are folidity, convenience, and beauty, to which fome add, order, difpofition, proportion, decorum, and œconomy. Solidity implies the choice of a good foundation, and found materials; convenience confifts in fo ordering the parts of an edifice that they may not embarrafs one another; beauty is that agreeable form and pleafing appearance, which it exhibits to the eye of a fpectator; order gives each part of the building a convenient bignefs, whether confidered apart, or with relation to the whole; and difpofition is the agreeable union of all the parts. Proportion is the relation that all the work hath to its parts, and which every one feparately hath to the whole; decorum teaches to have a regard to defign, cuftom, and nature; and œconomy to confider the expences, in order to regulate the form and magnitude of the fabric.

With refpect to the feveral periods and ftates of architecture, it is diftinguifhed into antient, gothic, and modern. The Greeks and Romans were fo happy in adjufting the various proportions of an edifice, that any neglect of their rules has been found to be a deviation from proportion and beauty itfelf. It is for this reafon that the moderns have retrieved the primitive fimplicity of antient architecture, which, upon the decline of the weftern empire, was loft in the general confufion of arts and fciences, being fucceeded by the gothic and morefk, fo called from the Goths and Moors. Thefe made perfection to confift in the delicacy and

and multitude of the ornaments, which they beftowed on their buildings, with abundance of care, as may be feen in moft of the antient ftructures in England and other parts of Europe.

The manner then, of the antients being reputed the ftandard of beauty and grandeur, another divifion of architecture arifes from the different proportions obferved by them in different buildings; according to the bulk, ftrength, delicacy, richnefs, or fimplicity required. This confifts of five orders, all invented at different times, and on different occafions, *viz.* tufcan, doric, ionic, corinthian, and compofite. See the articles ORDER, TUSCAN, DORIC, *&c.*

Of all the antient writers of architecture, Vitruvius is the only intire author.

The moft celebrated of thofe who have treated that fubject, fince his time, are Baptifta Alberti, Palladio, Scamozzi, Blondel, Goldman, Mr. Perault, Sir H. Wotton, Sturmius, and Wolfius.

Military ARCHITECTURE, the fame with what is otherwife called fortification. See the article FORTIFICATION.

Naval ARCHITECTURE, the art of building fhips. See *Conftruction of* SHIPS.

Counterfeit ARCHITECTURE, that which confifts of projectures, painted in black or white, or in colours after the manner of marble, which is alfo called fcene-work, in the painting of columns, *&c.* for the decoration of theatres.

ARCHITECTURE, in perfpective, a fort of building, the members of which are of different modules, and diminifh proportionably to their diftance, in order to make the work appear longer to the view than it really is.

ARCHITRAVE, in architecture, that part of a column, or order of columns, which lies immediately upon the capital; being the loweft member of the entablature, and fo called from its reprefenting the principal beam in timber-buildings. See the article ENTABLATURE.

Over a chimney, this member is called the mantle-piece; and over doors or windows, the hyperthyron.

Authors are very different in their dimenfions of architraves, and even with regard to the number of members it is compofed of.

The tufcan architrave, according to Vitruvius, fhould confift of two fafciæ and a cymatium, and be half a module in height.—The doric fhould be of the fame height as the tufcan, and confift of a tænia and five fafciæ.——The ionic fhould be compofed of three fafciæ and a cymatium, and of the fame height as before. The corinthian architrave fhould be allowed a greater altitude than the former, and confift of a cymatium and five fafciæ. The compofite architrave, frieze, and cornifh he makes of an equal height, and each equal to the diameter of the column juft under the capital, which is ten twelfths of a module.

ARCHITRAVE *Doors*, are thofe which have an architrave on the arch, if the top be curved; but, if ftraight, upon the cap-piece.

ARCHITRICLINUS, Αρχιτρικλινος, in antiquity, the mafter or director of a feaft, charged with the order and œconomy of it, the covering and uncovering of the tables, the command of the fervants, and the like.

The word architriclinus properly imports the chief or mafter of a triclinium or dining room. His office properly differed from that of *modimperator*, or *arbiter bibendi*, as the latter was appointed by the guefts, the architriclinus by the perfon who gave the feaft.

ARCHITYPE. See the article ARCHETYPE.

ARCHIVAULT, in architecture, the inner contour of an arch, or a band adorned with mouldings running over the faces of the arch-ftones, and bearing upon the impofts. It has only a fingle face in the tufcan order, two faces crowned in the doric and ionic, and the fame mouldings with the architrave in the corinthian and compofite.

ARCHIVE, or ARCHIVES, an apartment, in which are depofited the records, charters, and other papers of a ftate or community. The archives of the court of chancery are in the rolls office.

ARCHMARSHAL, the grand marfhal of the empire, a dignity belonging to the elector of Saxony.

ARCHON, αρχων, in grecian antiquity, the chief magiftrate of Athens, after the abolifhing of monarchy; and alfo, the appellation given to feveral officers, both civil and religious, under the greek empire. Thus we read of the archon of the gofpel, the archon of the walls, *&c.*

ARCHONTICI, in church-hiftory, a branch of Valentinians, who maintained that the world was not created by God, but by angels called archontes.

ARCHPRIOR, a name by which the master of the order of the knights-templars was sometimes called.

ARCHTREASURER, the great treasurer of the german empire, a dignity belonging to the duke of Brunswic, king of Great Britain, but also claimed by the elector palatine.

ARCO, a town in the bishoprick of Trent in Italy, situated about sixteen miles south west of Trent, in 10° 46′ east longitude, and 46° north latitude.

ARCTIC, αρκτικος, in astronomy, an epithet given to the north pole, and likewise to a circle of the sphere, parallel to the equator, and twenty-three degrees thirty minutes distant from the north pole. See the article POLE.

ARCTIUM, the BURDOCK, in botany, a genus of the syngenesia polygamia æqualis class of plants; the common calyx of which is globose, and imbricated; the compound flower is tubulated and uniform, with equal hermaphrodite corollulæ: the proper flower is monopetalous and tubulous, with a slender and very long tube; there is no pericarpium; the cup is connivent, and the seed single, vertically pyramidical, and crowned with a simple down shorter than the seed.

The roots, leaves and seeds of this plant are used in medicine, and said to be sub-astringent and diuretic, and good in the asthma, spitting of blood, &c. The seed is esteemed a powerful lithontriptic.

ARCTOPHYLAX, a constellation otherwise called boötes. See BOÖTES.

ARCTOPUS, in botany, a genus of the polygamia dioecia class of plants, the general umbel of which is long and unequal; the partial umbel is shorter; the involucra consist of five leaves; the corolla of five petals: the fruit is single and bilocular, and stands under the receptacle of the floscule: the seed is single, cordated and acuminated.

ARCTOTIS, in botany, a genus of the syngenesia polygamia necessaria class of plants, the common calyx of which is roundish and imbricated; the compound flower is radiated; the hermaphrodite corollulæ are tubulous and numerous in the disk: the proper hermaphrodite flowers are funnel-shaped; there is no pericarpium; the seed is single, roundish and hairy.

ARCTURUS, a fixed star of the first magnitude, in the skirt of boötes.

ARCTUS, αρκτος, in astronomy, the greek name for the ursa major and minor. See the article URSA.

ARCUATION, in gardening, the raising of trees by layers, which is done thus. Strong mother plants, or stools, must be planted in a clean border in a straight line, six feet asunder; and when they have shot five or six main branches from the root, and as many collateral branches, these main branches must be bent to the ground; for which reason, some cut them half through, and peg them fast down. The small branches must be covered three inches thick upon the joints, and have a large bason of earth made round them to hold the water.

Some persons give the branches a twist, to make them root the sooner.

ARCUATION, in surgery, denotes a distortion or incurvation of the bones, as happens in the rickets, &c.

ARCUTIO, *arcuccio*, a machine consisting of hoops used in Florence by nurses, in order to prevent the child from being overlaid. Every nurse is obliged to lay her child in an arcutio, under pain of excommunication.

ARDEA, the HERON, in ornithology, a genus of long-beaked birds; distinguished from all others by having the middle toe of each foot serrated, or jagged, with a series of scales on its outer side. This genus comprehends likewise the bittern, stork, crane, &c.

ARDENBURG, a fortified town of dutch Flanders, situated about twelve miles north east of Bruges, in 3° 20′ east longitude, and 51° 15′ north latitude.

ARDENNE, a forest in Germany, lying between Thionville and Liege.

ARDENT, *ardens*, something that is extremely hot, as if on fire: thus, we say, an ardent fever, &c. See FEVER.

ARDERS, among farmers, denotes the fallowings, or ploughings of grounds. See the article FALLOWING.

ARDEVIL, or ARDEBIL, the burying place of some of the antient kings of Persia, situated in 64° 20′ east longitude, and 36° north latitude.

ARDRES, a town of the province of Picardy in France, situated about ten miles south of Calais, in 2° east longitude, and 50° 45′ north latitude.

ARDRES, or ARDRA, is also the capital of a country on the slave coast of Guinea in Africa, situated near the river Lagos, in 4° east longitude, and 5° north latitude.

AREA, in geometry, denotes the superficial content of any figure; thus, if we suppose a parallelogram six inches long, and

and four broad, its area will be 6 × 4 = 24 square inches.

The method of finding the areas of different figures, as triangles, circles, &c. will be given under the articles TRIANGLE, CIRCLE, &c.

AREA, among physicians, the same with the alopecia. See the article ALOPECIA.

AREBON, a town of Guinea in Africa, situated at the mouth of the river Formosa, in 5° east long. and 5° north lat.

ARECA, in botany, a genus of plants, the characters of which are not perfectly ascertained; the calyx of the male flower is a bivalve spatha, the spadix is ramose; the corolla consists of three acuminated petals; the stamina are nine filaments, of which the three exterior ones are the longest; the female flowers are in the same spadix and spatha: the corolla is like the male corolla; the fruit is a sub-oval fibrose drupe, surrounded at the base with an imbricated calyx, and containing an oval seed.

This plant is a kind of palm tree, that grows naturally in the East Indies, where it is regarded as a strengthener of the stomach, and supposed to carry off every thing that might corrupt the gums.

AREMBERG, a city of Germany, situated about twenty-five miles south of Cologn, in 6° 25′ east longitude, and 50° 30′ north latitude.

ARENA, SAND, in natural history. See the article SAND.

ARENA, in roman antiquity, a place where the gladiators fought: so called from its being always strewed with sand, to conceal from the view of the people, the blood spilt in the combat.

ARENARIA, comprehending the small MANY-STALKED CHICKWEED, and the PURPLE SPURREY, in botany, is a genus of the decandria digynia class of plants; the calyx is a perianthium consisting of five oblong, acuminated, patent and permanent leaves; the corolla consists of five oval petals; the fruit is an oval covered capsule, containing one cell, in which are several kidney-shaped seeds.

ARENATION, *arenatio*, a kind of dry bath, wherein the patient sits with his bare feet on hot sand.

AREOMETER, or ARÆOMETER. See the article ARÆOMETER.

AREOLA, among anatomists, the coloured circle surrounding the nipple of the breast.

AREOPAGUS, or ARÆOPAGUS, ἀρειόπαγος, in grecian antiquity, a sovereign court at Athens, so famous for the justice and impartiality of its decrees, that the gods themselves are said to have submitted their quarrels to its determination.

AREOSTYLE, or ARÆOSTYLE. See the article ARÆOSTYLE.

AREOTICS, or ARÆOTICS. See the article ARÆOTICS.

AREQUIPPA, a city of Peru, in south America, situated in 73° west longitude and 17° south latitude.

ARETHUSA, in botany, a genus of the gynandria decandria class of plants, having no other calyx than a foliacious spatha: the corolla is ringent and consists of five oblong, sub-equal petals: the nectarium consists of a single leaf, divided into two segments; the fruit is an oblong oval capsule, consisting of three valves, and containing one cell, in which are several seeds.

ARETIA, in botany, a genus of the pentandria monogynia class of plants, the calyx of which is a perianthium, consisting of a single campanulated, semiquinquefid, and permanent leaf, without any involucrum: the corolla consists of a single petal, the tube is oval, and of the length of the cup; the limb is divided into four segments; and the fruit is a capsule, in which are contained many seeds.

AREZZO, a city of Tuscany, in Italy; situated in 13° 15′ east longitude, and 43° 15′ north latitude.

ARGEA, or ARGEI, in roman antiquity, thirty human figures, made of rushes thrown annually by the priests or vestals into the Tiber, on the day of the ides of May.

ARGEMONE, in botany, a genus of the polyandria monogynia class of plants, the calyx of which is a roundish spatha, composed of three hollow pointed deciduous leaves: the corolla consists of of three roundish, erecto-patent petals, larger than the cup: the fruit is an oval pentangular capsule, containing one cell, and seeming as if formed of five valves; the seeds are numerous and very small; the receptacles are linear, and grow to the angles of the pericarpium: they do not burst.

ARGENT, in heraldry, the white colour in the coats of gentlemen, knights, and baronets: the white in the arms of the sovereign princes is called luna, and that in the arms of the nobility pearl: this is expressed in engraving, by the parts being left plain, without any strokes from the

the graver. See plate XX. fig. 7.

ARGENTARIA, CRETA, in natural hiſtory, a perfectly pure white earth, found in Pruſſia, and much eſteemed for cleaning plate.

ARGENTIERE, a ſmall iſland in the Archipelago, ſituated about ſixty miles eaſt of the Morea, in 25° eaſt longitude, and 37° north latitude.

ARGENTINA, in ichthyology, a genus of malacopterygious fiſhes, with an oblong cylindrical body, and teeth on the tongue and palate.

ARGENTON, a town of France, ſituated about forty-five miles ſouth-weſt of Bourges, in 1° 35′ eaſt longitude, and 46° 40′ north latitude.

ARGENTUM, SILVER, in natural hiſtory. See the article SILVER.

ARGILLA, CLAY, in natural hiſtory. See the article CLAY.

ARGO, in aſtronomy, a conſtellation of fixed ſtars in the ſouthern hemiſphere, whoſe number of ſtars in Ptolemy's catalogue is 8, in Tycho's 11, and in Mr. Flamſteed's 25. See CONSTELLATION.

ARGONAUTS, in grecian antiquity, a company of illuſtrious Greeks, who embarked along with Jaſon in the ſhip Argo, on an expedition to Colchis, with a deſign to obtain the golden fleece: Hence,

ARGONAUTIC EXPEDITION, in chronology. See the article EPOCHA.

ARGOS, a ſea-port town of european Turky, in the Morea, ſituated on the bay of Napoli de Romania, in 23° eaſt longitude, and 37° 30′ north latitude.

ARGUMENT, *argumentum*, in rhetoric and logic, an inference drawn from premiſes, the truth of which is indiſputable; or at leaſt highly probable.

The arguments of orators receive particular denominations, according to the topics from whence they are derived; thus, we meet with arguments from affection, which intereſt the paſſions of the perſon to whom they are addreſſed; alſo with arguments *a tuto, ad ignaviam, ab invidia*, &c.

In reaſoning, Mr. Locke obſerves, that men ordinarily uſe four ſorts of arguments. The firſt is to alledge the opinions of men, whoſe parts and learning, eminency, power, or ſome other cauſe, has gained a name, and ſettled their reputation in the common eſteem, with ſome kind of authority; this may be called *argumentum ad verecundiam*. Secondly, another way is to require the adverſaries to admit what they alledge as a proof, or to aſſign a better; this he calls *argumentum ad ignorantiam*. A third way is, to preſs a man with conſequences, drawn from his own principles or conceſſions; this is known by the name of *argumentum ad hominem*. Fourthly, the uſing proofs drawn from any of the foundations of knowledge or probability; this he calls *argumentum ad judicium*; and obſerves, that it is the only one of all the four, that brings true inſtruction with it, and advances us in our way to knowledge. For, 1. It argues not another man's opinion to be right, becauſe I, out of reſpect, or any other conſideration, but that of conviction, will not contradict him. 2. It proves not another man to be in the right way, nor that I ought to take the ſame with him, becauſe I know not a better. 3. Nor does it follow, that another man is in the right way, becauſe he has ſhewn me, that I am in the wrong: this may diſpoſe me, perhaps, for the reception of truth, but helps me not to it; that muſt come from proofs and arguments, and light ariſing from the nature of things themſelves, not from my ſhamefacedneſs, ignorance, or error. See the articles REASON and REASONING.

The arguments of logicians are the ſyllogyſm, enthymem, induction, *&c.* See the article SYLLOGYSM, *&c.*

ARGUMENT, in aſtronomy, denotes a known arch, by means of which we ſeek another one unknown.

The argument of the moon's latitude is her diſtance from the node; and the argument of inclination is an arch of a planet's orbit, intercepted between the aſcending node, and the place of the planet from the ſun, numbered according to the ſucceſſion of the ſigns.

ARGUMENT *of the moon's menſtrual longitude*, or *menſtrual* ARGUMENT *of the longitude*, is an arch of the excentric circle of the moon, intercepted between her true place, once equated, and a right line drawn through the center of the excentric parallel to the menſtrual line of the apſides. See APSIS and MOON.

ARGUMENT, in matters of literature, denotes alſo the abridgment or heads of a book, hiſtory, comedy, chapter, *&c.* See the article SYLLABUS.

ARGUMENTATION, the act of him who argues, and the manner of framing arguments. See the article ARGUMENT.

ARGUN, a river of Tartary in Aſia, ſerving as a boundary between the chineſe and ruſſian empires.

ARGUN is alſo a city of aſiatic Tartary.

tary, situated on the above river, in 104° east longitude, and 51° 30′ north latitude.

ARGUS-SHELL, a species of porcelain-shell, beautifully variegated with spots, resembling, in some measure, those in a peacock's tail. See PORCELAIN SHELL.

ARGYLESHIRE, a county of Scotland, lying westward of Glasgow, and comprehending the countries of Lorn, Cowal, Knapdale, Kintyre, together with the islands Mull, Jura, Isla, &c. It gives the title of duke to the noble family of Campbell.

ARGYROPOEIA, among alchemists, a pretended art of transmuting, or changing other metals into silver.

ARHUSEN, a city of Jutland, in Denmark, situated at the entrance of the Baltic-sea, in 10° 20′ east longitude, and 56° north latitude.

ARIANO, a town of the kingdom of Naples, and province of Principata, situated about fifteen miles east of Benevento, in 15° 35′ east longitude, and 41° 16′ north latitude.

ARIANS, in church history, a sect of antient heretics, who denied the three persons in the holy trinity to be of the same essence, and affirmed Christ to be a creature; that he was inferior to the father as to his deity; that he was neither co-eternal, nor co-equal with him; also, that the holy ghost was not God, but a creature of the son. In their doxologies, they ascribed glory to the father in the son, through the holy ghost.

ARICA, a sea-port town of Peru, in south America, situated on the pacific ocean, in 70° 20′ west longitude, and 18° 20′ south latitude.

ARIES, RAM, in zoology. See RAM.

ARIES, in astronomy, a constellation of fixed stars, drawn on the globe in the figure of a ram. It is the first of the twelve signs of the zodiac, from which a twelfth part of the ecliptic takes its denomination. It is marked thus ♈, and consists of sixty-five stars.

ARIES, the battering ram, in antiquity. See the article RAM.

ARISARUM, in botany, the name by which two distinct genuses of plants, the calla and arum of Linnæus, are called. See the article CALLA, &c.

The arisarum of Tournefort has a hooded kind of flower, from whence its english name Friars cowl.

The flower and leaves, applied in the way of ointment, are detersive and vulnerary; and the roots, taken in powder, are reckoned good in malignant cases.

ARISTA, among botanists, a long needle-like beard, which stands out from the husk of a grain of corn, grass, &c.

ARISTIDA, in botany, a genus of the triandria digynia class of plants, the calyx of which is a bivalve subulated glume, of the length of the corolla; the corolla is a glume of one valve opening longitudinally, hairy at the base, and terminated by three sub-equal patulous aristæ; the fruit is a connivent glume, containing a naked filiform single seed, of the length of the corolla.

ARISTOCRACY, a form of government where the supreme power is vested in the principal persons of the state, either on account of their nobility, or their capacity and probity. The republic of Venice is an aristocracy.

ARISTOLOCHIA, BIRTH WORT, in botany, &c. See BIRTH-WORT.

ARISTOTELIAN, something relating to Aristotle: thus we read of the aristotelian philosophy, school, &c. See the article PERIPATETICS.

ARISTOTELIAN WHEEL, *rota aristotelica.* See the article ROTA.

ARITHMETIC, the art or science of numbering; being that branch of pure mathematics, which treats of the powers and properties of numbers.

Proclus, in his commentary upon the first book of Euclid, says, that the Phœnicians, by reason of their traffic and commerce, were thought to be the first inventors of arithmetic, which Pythagoras and his followers, as also the Ægyptians, Greeks, and Arabians afterwards much improved, as Clavius and others tell us. But if we are to judge of the knowledge of these antients in arithmetic, from their writings upon the subject, which have been transmitted to us, we may safely conclude, that their advances herein were but very short and scanty. For, setting aside Euclid, who indeed has given several very plain and pretty properties of numbers in his *Elements*, and Archimedes in his *Arenar*, they mostly consist in dry disagreeable distinctions and divisions of numbers; as may be seen in Nicomachus's, and Boetius's arithmetic.

Nor is the Greek manner of numeration, by the letters of the alphabet, at all fit for the performance of the practical part of multiplication, division, &c. with the ease and expedition that they are now-a-days performed by the Indian figures or nine digits.

Dr.

Dr. Wallis, in his hiftory of algebra, fays, that there are at Oxford two arithmetical manufcripts of Johannes de Sacro Bofco, who died about the year 1250, wherein the operations of addition, fubtraction, multiplication, divifion, and extraction of the fquare and cube roots, are performed much the fame as now.

Boetius's arithmetic was wrote in the fixth century. And in the ninth century Pfellius wrote a compendium of the antient arithmetic in Greek, which was tranflated into latin by Xylander, and publifhed anno 1556, at Bafil.

The fundamental rules, or operations, of arithmetic, are four, *viz.* addition, fubftraction, multiplication, and divifion; the practice of each of which is given under the heads ADDITION, SUBSTRACTION, *&c.*

But befides thefe, there are other rules contrived for facilitating computations of all kinds: fuch is the rule of proportion, rule of three, or golden-rule, as it is called; alfo, the rules of fellowfhip, intereft, reduction, extraction of roots, barter, *&c.* all which will be delivered under the feveral heads PROPORTION, INTEREST, *&c.*

The number of books on arithmetic is very great. Wingate, Cocker, Leybourn, Hill, Pardon, *&c.* have written practical treatifes of it; but by far the moft complete fyftem, in our, or perhaps in any other language, is that of Mr. Malcolm.

Binary ARITHMETIC. See BINARY.

Common ARITHMETIC, befides that of integers, already defcribed, comprehends vulgar fractions. See FRACTION.

DECADAL, that performed by nine figures and a cypher, taken, no doubt, from the number of our fingers. See the article NUMERATION.

Decimal ARITHMETIC, that containing the doctrine of decimal fractions. See the article DECIMAL.

Dyadic ARITHMETIC, the fame with the binary. See the article BINARY.

Harmonical ARITHMETIC. See the article HARMONICAL.

ARITHMETIC *of Infinites*, the doctrine of infinite feries. See the article SERIES.

Inftrumental ARITHMETIC, that performed by means of inftruments, as the abacus, or counting-board, napier's bones, *&c.* See ABACUS, NAPIER'S BONES, *&c.*

Literal ARITHMETIC, the fame with *fpecious.* See the article ALGEBRA.

Logarithmetical ARITHMETIC, that performed by means of logarithms. See the article LOGARITHM.

Logiftical ARITHMETIC, the fame with *fexagefimal.*

Numerous ARITHMETIC, the fame with *decadal.*

Political ARITHMETIC. See POLITICAL.

ARITHMETIC of rationals and irrationals. See the article RATIONAL.

Sexagefimal ARITHMETIC, the doctrine of fexagefimal fractions. See the article SEXAGESIMAL.

Specious ARITHMETIC, the fame with algebra. See the article ALGEBRA.

Tetractical ARITHMETIC, that wherein only 1, 2, 3, and 0 are ufed.

ARITHMETICAL, in a general fenfe, fomething belonging to arithmetic. See the preceding article.

ARITHMETICAL *complement of a logarithm*, the fum or number which a logarithm wants of 10,000000: thus the arithmetical complement of the logarithm 8.154032 is 1.845968.

ARITHMETICAL *mean*, or *medium.* See the article MEDIUM.

ARITHMETICAL *mufic*, is that part of the fcience of mufic, which confiders the relations of founds and numbers. See the article MUSIC.

ARITHMETICAL *progreffion.* See the article PROGRESSION.

ARITHMETICAL *proportion.* See the article PROPORTION.

ARITHMETICAL *ratio.* See RATIO.

ARITHMOMANCY, αριθμομαντεια, a fpecies of divination performed by means of numbers.

The gematrie, which makes the firft fpecies of the jewifh cabbala, is a fort of arithmomancy. See CABBALA.

ARK, ARC, or ARCH. See ARCH.

ARK, *arca*, in the fcripture language, a kind of veffel, built by the exprefs command of God, for preferving Noah and his family, together with the feveral fpecies of animals, from the univerfal deluge. It was not like our modern fhips, but of an oblong fquare form, not unlike a cheft, only that the roof, or upper part, was built fhelving, to carry off the rain. The ark has afforded feveral points of curious enquiry among the critics and naturalifts, relating to the form, capacity, and materials; time of building, place of refting after the flood, *&c.* Thofe who defire a particular difcuffion of thefe points may confult Calmet's dictionary of the bible, Buteo de arca Noe, Wilkins's real character, *&c.*

ARK *of the covenant*, fo the Jews called a fmall cheft, wherein were contained the golden

golden pot that had manna, Aaron's rod, and the tables of the covenant.

This coffer was of ſhittim wood, covered with plates or leaves of gold, being two cubits and a half in length, a cubit and an half wide, and a cubit and an half high. Upon the top of it there was all round a kind of gold crown, and two cherubims were faſtened to the cover. On the two ſides of this coffer there were four rings of gold, two on each ſide, thro' which ſtaves were put, by the help whereof they carried it as they marched thro' the wilderneſs.

ARKLOW, a ſea-port town of Ireland, ſituated in the county of Wicklow, about thirteen miles ſouth of the city of Wicklow, in 6° 20′ weſt longitude, and 52° 55′ north latitude.

ARLES, a city of Provence in France, ſituated on the eaſtern ſhore of the river Rhone, in 4° 45′ eaſt longitude, and 43° 32′ north latitude.

ARLON, a town of the dutchy of Luxemburg, in the auſtrian Netherlands, ſituated in 5° 30′ eaſt longitude, and 49° 45′ north latitude.

ARM, *brachium*, a part of the human body, terminating at one end in the ſhoulder, and at the other in the hand.

Anatomiſts divide the arm into two parts, calling only that part the arm which is included between the ſhoulder and the elbow, the reſt, from the elbow to the wriſt, being taken into the greater hand, is called the fore arm. The arm, in this acceptation, has only one large bone, called the os humeri, or the ſhoulder bone. The other part conſiſts of two bones, viz. the radius, and cubitus, or ulna.

The os humeri has five ſorts of motions, which are effected by five pair of muſcles; upwards, by the deltoides, ſupraſpinatus, and coraco brachials; downwards, by the teres, rotundus major, and latiſſimus dorſi; forwards, by the pectoralis; backwards, by the infraſpinatus.

The muſcles of the other part are the biceps, brachiæus internus, gemellus, brachiæus externus, anconæus, pronator, radii teres, & quadratus, ſupinator longus, & brevis. Its motions are confined to two kinds, that of rotation, and that of flexion and extenſion.

For fractures and luxations of the arm, ſee Humerus and Cubitus.

Arm, *in riding*, is applied to a horſe, when by preſſing down his head, he endeavours to defend himſelf againſt the bit, to prevent obeying, or being checked thereby.

A horſe is ſaid to arm himſelf with the lips, when he covers his bars with his lips, and deadens the preſſure of the bit.

Arm, in geography, denotes a branch of the ſea, or of a river.

Arm is alſo uſed figuratively for power.

Arm, in reſpect of the magnet. A loadſtone is ſaid to be armed, when it is incloſed, capped, or ſet in iron or ſteel, in order to increaſe its magnetic virtue. See the article Magnet.

ARMADA, a ſpaniſh term, ſignifying a fleet of men of war, as armadilla does a ſquadron.

The armada which attempted to invade England, in the time of Queen Elizabeth, is famous in hiſtory.

ARMADILLO, in zoology, an animal of the quadruped claſs, comprehended by ſome among the hedge-hogs, but made a diſtinct genus by Linnæus, under the name daſypus; the diſtinguiſhing characteriſtic of which is, that the animals are covered with a kind of bony, or horny coat of mail, of various figures and dimenſions. One of theſe with feet ſomewhat reſembling the human hand, is repreſented in plate XX. fig. 6.

ARMAGH, once a conſiderable city of Ireland, but now much reduced, ſituated about thirty miles ſouth of Londonderry, in 6° 45′ weſt longitude, and 54° 30′ north latitude.

It is ſtill the ſee of the primate of Ireland, and gives name to the county of Armagh.

ARMAGNAC, a diſtrict or territory, in the north-eaſt part of Gaſcony in France.

ARMAN, in farriery. See the article Drench.

ARMED, in a general ſenſe, denotes ſomething provided with, or carrying arms.

Armed, in the ſea language. A croſs-bar ſhot is ſaid to be armed, when ſome rope-yarn, or the like, is rolled about the end of the iron bar, which runneth through the ſhot.

A ſhip is ſaid to be armed, when fitted out, and provided, in all reſpects, for war.

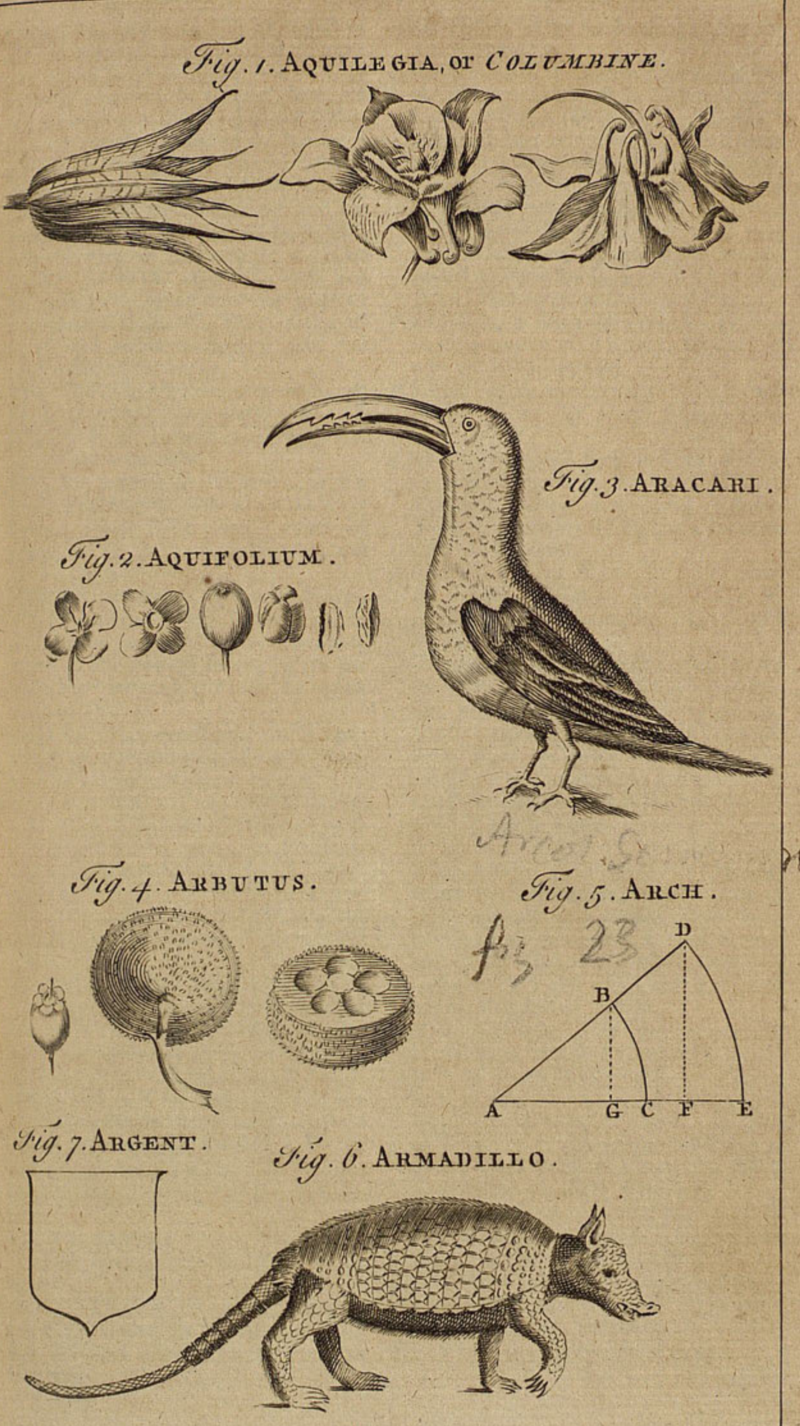
Armed, in heraldry, is uſed when the horns, feet, beak, or talons of any beaſt or bird of prey, are of a different colour from the reſt of their body. He bears a cock or a falcon armed, or, &c.

Armed magnet, or Loadstone. See the article Magnet.

ARMENIA, a large country of Aſia, comprehending Turcomania, and part of Perſia.

ARMENIAN, ſomething belonging to, or produced in, Armenia: thus, we ſay, *armenian bole*, *armenian ſtone*, &c. See the articles Boles, Lapis, &c.

Ar-



T. Jefferys sculp.

ARMENIANS, in church-hiſtory, a ſect or diviſion amongſt the eaſtern chriſtians; thus called from Armenia, the country antiently inhabited by them; there are two kinds of armenians, the one catholic, and ſubject to the pope, having a patriarch in Perſia, and another in Poland; the other makes a peculiar ſect, having two patriarchs in Natolia. They are generally accuſed of being monophyſites, only allowing of one nature in Jeſus Chriſt. As to the euchariſt, they, for the moſt part, agree with the greeks: they abſtain rigorouſly from eating of blood, and meats ſtrangled; and are much addicted to faſting.

ARMENTIERS, a fortified town in french Flanders, ſituated about ſeven miles weſt of Liſle, in 2° 50′ eaſt longitude, and 50° 42′ north latitude.

ARMIERS, a town of Hainault, in the french Netherlands, ſituated on the river Sambre, about twenty miles ſouth of Mons, in 3° 40′ eaſt longitude, and 50° 15′ north latitude.

ARMIGER, an eſquire, or armour-bearer.

ARMILLA-MEMBROSA, in anatomy, is that circular ligament which comprehends all the tendons belonging to the whole hand within a circle, in the region of the carpus.

ARMILLARY, *armillaris*, in a general ſenſe, ſomething conſiſting of rings, or circles, from *armilla*, a bracelet.

ARMILLARY SPHERE, an artificial ſphere, compoſed of a number of circles, repreſenting the ſeveral circles of the mundane ſphere, put together in their natural order, to eaſe and aſſiſt the imagination, in conceiving the conſtitution of the heavens, and the motions of the celeſtial bodies.

The armillary ſphere turns upon its axis P*p* (plate XXII. fig. 1.) within a ſilvered horizon H O, which is divided into degrees, and moveable every way, upon a braſs ſupporter. E Q repreſents the equinoctial, and A B the zodiac, which is a broad circle divided into degrees, and into twelve equal parts, marked with the twelve ſigns ♈, ♉, ♊, *&c.* A P B p is the meridian, likewiſe divided into degrees.

The other parts are the two tropics, and two polar circles, both delineated in the figure.

ARMILUSTRIUM, in roman antiquity, a feaſt held among the Romans, in which they ſacrificed armed, to the ſound of trumpets.

ARMINGS, in the ſea-language. See the article ARMED.

ARMINIANS, in church-hiſtory, a ſect of chriſtians, which aroſe in Holland, by a ſeparation from the calviniſts. They are great aſſertors of free-will. They ſpeak very ambiguouſly of the preſcience of God. They look on the doctrine of the trinity as a point not neceſſary to ſalvation; and many of them hold there is no precept in ſcripture, by which we are enjoined to adore the holy ghoſt; and that Jeſus is not equal to God the father.

ARMIRO, a town of european Turky, in the province of Theſſaly, ſituated in 23° 30′ eaſt longitude.

ARMISTICE, a temporary truce, or ceſſation of arms for a very ſhort ſpace of time.

ARMOISIN, a ſilk ſtuff, or kind of taffety, manufactured in the Eaſt Indies, at Lyons in France, and Lucca in Italy. That of the Indies is ſlighter than thoſe made in Europe.

ARMONIAC, or AMMONIAC, in natural hiſtory, a ſort of volatile ſalt, of which there are two kinds, natural and artificial.

The natural ſal ammoniac, uſed by the antients, was found in the ſands of Lybia, near the temple of Jupiter Ammon. It was ſuppoſed to be generated in thoſe ſands from the urine of camels. The artificial, or common ſal ammoniac, is chiefly brought from Egypt; and though there is hardly a more common drug, it is but very lately we have known in what manner it is made; being procured by ſublimation from all ſorts of urine of men and beaſts, mixed with common ſalt and ſoot. It muſt be choſen white, clear, tranſparent, dry, and without filth; and when broken, it muſt appear as if full of needles.

The uſe of this ſalt is very conſiderable in medicine, and ſeveral artificers uſe it; ſuch as dyers, ſilverſmiths, pinmakers, farriers, *&c.* Its ſpirit is ſo ſharp, that, when mixed with aqua-fortis, or ſpirit of nitre, it completes the diſſolution of gold, which thoſe two powerful diſſolvents could not effect without it.

Its preparations are, 1. Flowers of ſal armoniac. 2. Its volatile ſalt. 3. Its ſpirit. 4. Its dulcified ſpirit.

ARMOR, or ARMOUR. See ARMOUR.

ARMORIAL, ſomewhat relating to arms, or coats of arms. See the article ARMS.

ARMORY, a warehouſe of arms, or a

place wherein the military habiliments are kept, to be ready for ufe.

ARMORY is alfo a branch of the fcience of heraldry, confifting in the knowledge of coats of arms, as to their blazons and various intendments. See the articles BLAZONING and HERALDRY.

ARMOUR denotes all fuch habiliments as ferve to defend the body from wounds, efpecially of darts, a fword, a lance, &c.

A complete fuit of armour formerly confifted of a helmet, a fhield, a cuiraffe, a coat of mail, a gantlet, &c. all now laid afide.

ARMOURER, a perfon who makes or deals in arms and armour.

ARMS, *arma*, in general, all kinds of weapons, whether ufed for offence or defence.

Arms of offence are the fword, piftol, mufquet, bayonet, &c. See SWORD, &c.

Arms of defence. See ARMOUR.

ARMS, in a legal fenfe, extend to any thing that a perfon wears for his own defence, or takes into his hand, and ufes, in anger, to ftrike or throw at another.

ARMS of courtefy or parade, were lances not fhod, fwords without edge or point, &c. ufed in the antient tournaments. See the article TOURNAMENT.

Pafs of ARMS, a kind of combat, when antiently one or more cavaliers undertook to defend a pafs againft all attacks.

ARMS denote alfo the natural weapons of beafts, as claws, teeth, beak, &c.

ARMS, or ARMORIES, in heraldry, marks of honour borne upon fhields, banners, and coats, in order to diftinguifh ftates, families, and perfons.

At this time, arms follow the nature of titles, which being made hereditary, they are alfo become fo, being the feveral marks to diftinguifh families, as names ferve to diftinguifh individuals. They are the gift of kings and princes, through the miniftry of their kings and heralds of arms, who ought to be knowing and judicious, to give the proper arms to all perfons.

Arms are faid to be parted, couped, quartered, &c.

Charged ARMS, are fuch as retain their antient integrity and value, with the addition of fome new honourable bearing.

Canting or vocal ARMS, thofe in which there are fome figures, alluding to the name of the family.

Full or intire ARMS, fuch as retain their primitive purity, without any alterations or abatements.

Falfe ARMS, fuch as are not conformable to the rules of heraldry.

ARMS, in falconry, the legs of a hawk from the thigh to the foot.

Place of ARMS, in fortification. See the article PLACE.

Affumptive ARMS. See ASSUMPTIVE.

ARMS *of patronage*. See PATRONAGE.

King at ARMS. See KING *at arms*.

Herald at ARMS. See the article HERALD.

Pourfuivant at ARMS. See POURSUIVANT.

College of ARMS. See COLLEGE *of heralds*.

ARMUYDEN, a fea port town of the ifland of Zetland, fituated at the mouth of the canal of Middleburg, in 3° 35′ eaft lon. and 51° 30′ north latitude.

ARMY, a large body of foldiers, confifting of horfe and foot, completely armed, and provided with artillery, ammunition, provifions, &c. under the command of one general, having lieutenant-generals, major-generals, brigadiers, and other officers under him. An army is compofed of fquadrons and battalions, and is ufually divided into three corps, and formed into three lines; the firft line is called the van-guard, the fecond the main body, and the third the rear-guard, or body of referve. The middle of each line is poffeffed by the foot, the cavalry form the right and left wing of each line; and fometimes they place fquadrons of horfe in the intervals between the battalions. When the army is drawn up in order of battle, the horfe are placed at five feet diftance from each other, and the foot at three. In each line the battalions are diftant from each other one hundred and eighty feet, which is nearly equal to the extent of their front; and the fame holds of the fquadrons, which are about three hundred feet diftant, the extent of their own front. Thefe intervals are left for the fquadrons and battalions of the fecond line to range themfelves againft the intervals of the firft, that both may more readily march through thofe fpaces to the enemy: the firft line is ufually three hundred feet diftant from the fecond, and the fecond from the third, that there may be fufficient room to rally, when the fquadrons and battalions are broken.

This is to be underftood of a land army only. A naval, or fea army, is a number of fhips of war, equipped and manned with failors and mariners, under the command of an admiral, with other inferior officers under him. See the articles NAVY, FLEET, &c.

For

For diseases incident to armies, see the articles CAMP, HOSPITAL, &c.

ARNAY-LE-DUC, a town of Burgundy in France, situated on the river Arroux, in 4° east longitude, and 47° north lat.

ARNHEIM, a large city of Guelderland, in the united Netherlands, situated on the river Lech, about ten miles north of Nimeguen, in 5° 50′ east longitude, and 52° north latitude.

ARNICA, in botany, a genus of the syngenesia polygamia superflua class of plants, the common calyx of which is an imbricated perianthium, shorter than the radius of the corolla, with lanceolated, erect petals, of the length of the cup: the compound flower is radiated, the hermaphrodite corollulæ in the disk are very numerous, and the female ones in the radius are about twenty in number: the proper hermaphrodite flower is monopetalous, tubulous, erect, and trifid: there is no pericarpium, the seed is single, oblong, and crowned with a capillary long down.

ARNO, a river of Italy, which, after watering Tuscany, falls into the Mediterranean, below Pisa.

ARNOLDISTS, in church-history, sectaries so called from their leader Arnold of Bresse, who was a great declaimer against the wealth and vices of the clergy; and who is also charged with preaching against baptism, and the eucharist.

AROMATIC, an appellation given to such plants and other bodies as yield a brisk fragrant smell, and a warm spicy taste, as cloves, cardamom-seeds, cinnamon, nutmegs, &c. Their peculiar qualities reside in a volatile oil, usually called essential oil, and a grosser resinous substance, capable of being extracted by spirit of wine. The virtues of all aromatic vegetables are extracted by vinous spirits; very imperfectly by watery liquors. In distillation they arise with water more perfectly than with spirit. Aromatics, considered as medicines, warm the stomach, and by degrees the whole habit, raise the pulse, and quicken the circulation: hence in cold languid cases, they increase strength, and promote the natural secretions.

It is remarkable, that aromatics or spices preserve animal substances from putrefaction; and that providence has taken care to furnish warm climates with plenty of aromatics, which the inhabitants make frequent use of, and probably thereby check that spontaneous tendency to putrefaction, to which the heat inclines them.

Besides all kind of spices, not a few of the nervous simples may be ranked among aromatics.

AROMATIC *wine*, that in which aromatics have been infused.

ARONA, a fortified town of the Milanese, situated on the south-west part of the lake Maggior, in 8° 50′ east longitude, and 45° 40′ north latitude.

ARONCHES, a town of the province of Alentejo, in Portugal, situated in 7° 30′ west longitude, and 39° north latitude.

AROURA, a grecian measure of fifty feet. It was more frequently used for a square measure of half the plethron. The egyptian aroura was the square of one hundred cubits.

ARRACHE'E, in heraldry, a term applied to the representations of plants torn up by the roots.

ARRACK. See the article RACK.

ARRAIGNMENT, in law, the arraigning or setting a thing in order, as a person is said to arraign a writ of novel disseisin, who prepares and fits it for trial. It is most properly used, to call a person to answer in form of law upon an indictment, &c. at the suit of the king.

The arraignment is to take care that the prisoner appears to be tried, and hold up his hand at the bar for the certainty of the person, and plead a sufficient plea to the indictment. The prisoner is to hold up his hand only in treason and felony; but this is only a ceremony: if he owns that he is the person, it is sufficient without it; and then, upon his arraignment, his fetters are to be taken off.

ARRAN, an island of Scotland, situated in the frith of Clyde, between Cantire and Cunningham.

ARRAS, a large fortified town of the french Netherlands, capital of the province of Artois, situated in 2° 50′ east longitude, and 50° 20′ north latitude.

It is from this city that the tapestry, called *arras hangings*, takes its denomination.

ARRAS, or ARAXES, is also the name of a river of Georgia, which discharges itself into the Caspian sea.

ARRAY, in law, the ranking or setting forth of a jury, or inquest of men impannelled on a cause.

Battle-ARRAY, the order or disposition of an army, drawn up with a view to engage the enemy. See the article ARMY.

ARREARS, the remainder of a fum due, or money remaining in the hands of, an accountant. It fignifies alfo, more generally, the money that is due for rent, unpaid for land or houfes; likewife what remains unpaid of penfions, taxes, or any other money payable annually, or at any fixed term.

Rien ARREAR, in law, a plea whereby a perfon, fued for arrears, alledges there are none due.

ARRENTATION, in the foreft-law, is the licenfing an owner of lands in a foreft, to inclofe them with a low hedge, and a fmall ditch, in confideration of a yearly rent.

ARREST, the apprehending and reftraining a perfon, in order to oblige him to be obedient to the law; which in all cafes, except treafon, felony, or breach of the peace, muft be done by virtue of a precept out of fome court. Doors may be broke open to arreft a felon; but in civil cafes it is otherwife, unlefs it be in purfuit of one before taken.

Attornies, *&c.* malicioufly caufing any perfon to be arrefted, fhall forfeit ten pounds, and treble damages. The fame penalty is incurred for arrefting a perfon, (except in criminal cafes, and an efcape-warrant) on fundays; but arrefts made in the night, are equally lawful with thofe by day.

Peers of the realm, and members of parliament, may not be arrefted for debt; nor can any other fubject be arrefted for lefs than ten pounds, on a procefs iffued out of a fuperior court, or forty fhillings in an inferior one.

ARREST *of judgment*, the affigning juft reafons why judgment fhould not pafs, as want of notice of the trial, a material defect in the pleading, when the record differs from the deed pleaded, when perfons are mis-named, where more is given by the verdict than is laid in the declaration, *&c.* This may be done either in criminal or civil cafes.

ARRESTANDIS BONIS, *&c.* a writ that lies for one whofe cattle or goods are taken by another, who is likely to carry them away before the conteft is decided.

ARRESTO FACTO SUPER BONIS, *&c.* a writ brought by a denizen againft the goods of aliens found within this kingdom, as a recompence for goods taken from him in a foreign country.

ARRESTS, in farriery, mangy tumours upon a horfe's hinder legs, between the ham and the paftern. See RAT-TAIL.

ARRHABONARII, a fect of chriftians, who held that the eucharift is neither the real flefh or blood of Chrift, nor yet the fign of them: but only the pledge or earneft thereof.

ARRHEPHORIA, ἀῤῥηφορία, a feaft among the Athenians, inftituted in honour of Minerva, and Herfe daughter of Cecrops.

ARRIERE, the hinder or pofterior part of any thing. See the article REAR.

ARRIERE-BAN, in the French cuftoms, is a general proclamation, whereby the king fummons to the war all that hold of him; both his vaffals, *i. e.* the nobleffe, and the vaffals of his vaffals.

ARRIERE-FEE, or FIEF, is a fee dependent on fome other fuperior one.

ARRIERE-VASSAL, or TENANT, the vaffal or tenant of another vaffal or tenant.

ARROBA, a weight ufed in Spain, in Portugal, at Goa, and throughout all fpanifh America. In all thefe places, the arrobas are fcarce any otherwife like each other but in name, being very different in weight, and in their proportion to the weights of other countries.

ARROE, an ifland of Denmark, fituated in the Baltic fea, in 10° 15′ eaft longitude, and 55° 15′ north latitude.

ARROGATION, or ADROGATION. See the article ADROGATION.

ARRONDE'E, in heraldry, a crofs, the arms of which are compofed of fections of a circle, not oppofite to each other, fo as to make the arms bulge out thicker in one part than another; but the fections of each arm lying the fame way, fo that the arm is every where of an equal thicknefs, and all of them terminating at the edge of the efcutcheon like the plain crofs.

ARROW, a miffive weapon, fharp-pointed and barbed, defigned to be fhot or thrown out of a bow. See BOW.

ARROW, in furveying, fmall fticks, fhod with iron, to ftick into the ground at the end of the chain.

ARROW, *fagitta*, in aftronomy. See the article SAGITTA.

ARSENIC, a poifonous mineral-preparation, which is either white, red, or yellow, all prepared from the flowers of cobalt. See the article COBALT.

The white arfenic, which is prepared by fubliming thefe flowers, without any addition, is the bafis of the other two; the yellow arfenic being made by fubliming ten pounds of the white kind to which one pound of fulphur has been added; and

and red arfenic is fublimed from ten pounds of white arfenic, or flowers of cobalt, one pound of fulphur, and fix ounces of fcoriæ of copper.

Properties and ufes of ARSENIC. The fmalleft quantity of any of thefe arfenics, mixed with any metal, renders it friable, and abfolutely deftroys its malleability; fo that the refiners dread nothing fo much as arfenic in their metals. It preys moft readily on iron, then on copper; both which it turns white. Silver, and even gold, are not able to withftand the corrofive power of arfenic; but tin fuffers moft of all from it, being thereby calcined in an inftant to grey loofe afhes. It is ufed in many manufactures. Potters, glafs-men, painters in enamel, *&c.* find it of ufe in their feveral profeffions.

Arfenic, taken internally, is the moft fatal of all poifons, and therefore people cannot be too cautious in this refpect. Hence alfo appears the extreme danger in felling yellow arfenic inftead of orpiment, which is but too frequently done.

ARSENICAL, in a general fenfe, fomething belonging to, or partaking of the nature of arfenic.

ARSENICAL MAGNET, a preparation of white arfenic with antimony and fulphur, faid to be a gentle cauftic.

ARSENOTHELYS, ἀρσενόθηλυς, the fame with hermaphrodite.

ARSIS and THESIS, in mufic. A point is faid to move *per arfin* and *thefin*, which rifes in one part and falls in another, and *vice verfa*.

ARSON, in law, the fame with houfe-burning, which is felony at common law, and likewife by ftatute.

ART, *ars*, a fyftem of rules, ferving to facilitate the performance of certain actions; in which fenfe it ftands oppofed to fcience, or a fyftem of merely fpeculative principles.

Arts are commonly divided into liberal and mechanical; the former comprehending poetry, painting, fculpture, architecture, *&c.* and the latter, the whole body of mechanical trades, as carpentry, mafonry, turnery, *&c.* See the articles POETRY, PAINTING, *&c.*

The great Bacon obferves, that the arts which relate to the eye and ear, are accounted moft liberal: the others being held in lefs repute, as approaching nearer to fenfuality than magnificence: alfo, that during the rife of ftates, the military arts have been found to flourifh; when at their heights, the liberal arts; and, when on the decline, the arts of luxury.

ART is alfo an appellation given to feveral fuperftitious practices, as St. Anfelm's art, St. Paul's art, *&c.*

Terms of ART. See the article TERM.

Batchelor of ARTS. See BATCHELOR.

Mafter of ARTS. See the article MASTER.

ART and PART, in the law of Scotland, is applied to an accomplice. See the article ACCOMPLICE.

The facts inferring art and part need not be particularly laid in the libel or indictment, for thefe general words, as terms of ftated fignification, are fufficient. Yet thefe facts may be fet forth, and it is proper fo to do, if the profecutor chufes to confide in the court rather than in the jury.

Alfo in the criminal letters, the perfons of the accomplices muft be defcribed by proper names and defignations.

One may be art and part, 1° By giving counfel to perpetrate, without diftinction, whether the crime would have been committed without fuch counfel or not. This being what can never be perfectly known. But it is to be obferved, that in the more atrocious crimes, he that gives counfel is equally punifhed as him that commits them; but in the lefs atrocious lefs feverely. And fometimes reafons of mitigation are taken from the age, the manner of advifing, *&c.* 2° By aid and affiftance, and that either previous, or concomitant, or fubfequent, to the commiffion of the crime. The firft rarely comes up to art and part, unlefs very particularly qualified; the fecond commonly does, and it is eafily known, if it does not; the third never, and hardly deferves the name, unlefs it be in providing for the criminal's efcape. But any of the three make art and part, if the perpetration was premeditated. 3° By a clear and explicit mandate to commit the crime, or to do fomewhat unlawful in itfelf, which with great probability might produce it, if executed by the hand of the mandatory, and not that of another.

ARTA, or LARTA, a fea-port town of Epirus, in european Turky, fituated in 22° eaft longitude, and 39° north lat.

ARTEDIA, a genus of the pentandria digynia clafs of plants, the general umbel of which is multiple, plane and patent; the partial umbel is fmall, but fimilar; the general involucrum is compofed of about ten leaves; they are of an oblong oval figure, nearly of the length of the umbel, and have three fpines or fetæ at their

Fig. 1. ARTERIES of the *HUMAN BODY.*

Fig. 2. AZURE.

T. Jefferys sculp.

called coronary ones, to the heart itself. A little above this, it is divided into three ascending branches: from which are formed the two carotids, and the two subclavians; and from these last proceed the musculares colli, the external scapular artery, the superior intercostals, the mediastinal artery, the superior diaphragmatic artery, the mammary artery, and the axillary arteries: all which are subdivided into less branches, as will be shewn under the articles CAROTID, SCAPULAR, AXILLARY, &c.

From the descending trunk of the aorta proceed, in the following order, the bronchial artery, the inferior intercostals, the arteries of the oesophagus, the inferior diaphragmatics, the coeliac, superior mesenteric, the renal or emulgent arteries, the spermatics, the inferior mesenteric, the lumbar arteries, the sacra, and two iliacs. These are the main branches sent out from the descending aorta, each of which is again subdivided into many lesser branches. See the articles BRONCHIAL, COELIAC, &c.

To enter into a more minute detail of these lesser subdivisions, would be tedious; and, therefore, we think it more expedient to refer to plate XXI. fig. 1. where the arteries are not only delineated, but their several names explained by proper references, in the following manner.

EXPLANATION of plate XXI. fig. 1.

1. Aorta, cut from its origin at the left ventricle of the heart.
2, 2. Trunks of the coronal arteries.
3. The three semilunar valves.
4, 4. Subclavian arteries.
5, 5. Carotid arteries.
6, 6. Vertebral arteries.
7, 7. Arteries of the tongue, &c.
8, 8. Temporal arteries.
9, 9. Point out the neighbouring muscles of the temporal arteries, the hairy scalp, and forehead.
10, 10. Trunks which send blood to the foramina narium.
11, 11. Occipital arteries.
12, 12. Arteries which carry blood to the fauces, gargareon, and muscles of those parts.
13, 13. Contortions of the carotids.
14, 14. Those parts of the carotids, where they pass by each side of the sella turcica, where divers small branches arise from them, to compose the rete mirabile.
15, 15. Ophthalmic arteries.
16, 16. Arteries of the cerebellum.
17, 17. The communicant branches between the carotid and cervical artery.
18, 18. Ramifications of the arteries within the skull.
19, 19. Arteries of the larynx.
20, 20. Other arteries of the larynx, which convey the blood to the muscles of the neck and scapula.
21, 21. Mammary arteries.
22, 22. The arteries of the muscles of the os humeri, and some of those of the scapula.
23, 24, 25, 26. Arteries of the arm.
27. Arteries of the hand and fingers.
28, 28. Descending trunk of the aorta.
29. Bronchial artery.
30. A small artery springing from the fore-part of the aorta descendens, passing to the gula.
31, 31. Intercostal arteries.
32. Trunk of the coeliac artery.
33, 33, 33. Hepatic atteries.
34. Arteria Cystica.
35, 36, 37, 38, 39. Arteries of the stomach, pylorus, and epiplois.
40, 40. Phrenic arteries.
41. Trunk of the splenic artery.
42. Two small arteries going to the upper part of the duodenum and pancreas.
43, 44, 45, 46, 47. Mesenteric arteries.
48. Those of the rectum.
49, 49. Emulgent arteries.
50. The vertebral arteries of the loins.
51, 51. Spermatic arteries.
52. Arteria sacra.
53, 53. Iliac arteries.
54, 54, 58, 58. Iliaci externi.
55, 55, 59, 59. Iliaci interni.
56, 56. Umbilical arteries.
57, 57. Epigastric arteries.
60, 62. Arteries of the penis and pudendum.
61, 61. Arteries of the bladder.
63. The penis distended with wind, and dried.
64. The glans penis.
65. The upper-part of the dorsum penis, cut from the body of the penis, and raised to the corpora cavernosa penis.
66, 66. Corpora cavernosa penis freed from the ossa pubis, and tied after inflation.
67. The two arteries of the penis, as they appear injected with wax in each cavernous body of the penis.
68. The capsula and septum of the corpora cavernosa penis.
69, 69, 70, 70. Crural arteries.
71. That part of the crural artery that passes the ham.

72. Arteries of the leg.

73. Arteries of the foot.

Wounds of the ARTERIES. When any confiderable artery is wounded or divided, there generally enfues fo violent an hæmorrhage, that the wounded party is in an inftant fenfible of a great weaknefs and a lofs of fpirits, and faints away; and when any of the larger arteries are divided, whether they are external or internal, he dies upon the fpot. Although fomewhat lefs danger is apprehended from wounds that are inflicted upon the arteries, which are fituated upon the external parts of the body, fome few excepted, becaufe they will admit of the ligature, and other means for reftraining the violence of the hæmorrhage; neverthelefs, in the opinion of Heifter, it is impoffible to prevent the limbs, which lie below the divifion of the artery, and are ufed to receive their nourifhment by that channel, from becoming paralytic; nay, fometimes from mortifying: this is almoft conftantly the cafe, when the trunk of the brachial or crural artery is divided. See WOUND and HÆMORRHAGE.

Thefe being the confequences which follow the total divifion of a confiderable artery, it now remains to confider what will follow a partial divifion of them. Whenever a large artery is wounded, and not entirely divided, the wounded fibres inftantly contract themfelves; by this means they dilate the orifice of the wound, and render it difficult to ftop the flux of the blood; and though the hæmorrhage be ftopped for a little time, yet it will burft out again on a fudden violently, or, at leaft, produce an aneurifm: this will frequently be the cafe, when only the external coat of the artery is wounded; for by this means, the internal coat is left to fuftain the whole impetus of the pulfe, which it being unequal to, is forced by degrees into a tumour like a bag, which frequently brings on great mifchiefs. See the articles TUMOUR and ANEURISM.

The various methods for ftopping the profufion of blood, attending injuries of the arteries, have been already treated of under the article hæmorrhage; but it may be here obferved, that in dangerous wounds of the large arteries, fuch as the crural and axillary, and in amputations of the limbs, the fafeft method is that of making a ligature round the veffels: if this is performed by paffing a ftrong waxed thread under the artery, by the help of a crooked needle, the blood is prefently ftopped, and the orifices of the artery coalefce.

Rough ARTERY, *afpera arteria*, the cartilaginous tube, defcending from the mouth to the lungs, and otherwife called the trachea, or wind pipe. See TRACHEA.

ARTHRITIS, the GOUT, in medicine. See the article GOUT.

ARTHRITICA, in botany, a name ufed for the primrofe.

ARTHRODIA, in natural hiftory, a genus of imperfect cryftals, found always in complex maffes, and forming long, fingle pyramids, with very fhort and flender columns. See the article CRYSTAL.

ARTHRODIA, in anatomy, a fpecies of articulation, wherein a flat head of one bone is received into a fhallow focket of another.

ARTHRONIA, in zoology, a name given by Dr. Hill to that clafs of animalcules, which have vifible limbs; fuch as the fcelafius, brachionus or wheel-animals, &c. See the article SCELASIUS, &c.

ARTICHOAK, CYNARA, in botany. See the article CYNARA.

ARTICLE, a claufe or condition of a contract, treaty, &c.

ARTICLE is alfo a fmall part or divifion of a difcourfe, a book, or writing, &c.

ARTICLE *of faith* is a point of religious doctrine, allowed and received by any church, or religious fect, as having been revealed from heaven.

ARTICLE, in anatomy, the juncture of two bones defigned for motion.

ARTICLE *of death*, the laft pang or agony of one juft expiring.

ARTICLE, in arithmetic, fometimes called decad, denotes a number juftly divifible into ten parts, as the numbers 10, 20, 30, &c.

ARTICLE, in grammar, a particle in moft languages, that ferves to exprefs the feveral cafes and genders of nouns, when the languages have not different terminations to denote the different ftates and circumftances of nouns.

The latin has no article; but the greeks have their ὁ: the eaftern languages have their *he emphaticum*; and moft of the modern languages have had recourfe to articles. The only articles made ufe of in the englifh tongue, are *a* and *the*; which, prefixed to fubftantives, determine their general fignification to fome particular thing. The ufe of *a* is in a general fenfe, and may be applied to any particular perfon or thing, and upon that account

account is called an *indefinite article*: but *the*, being a determinate article, is called definite, or demonstrative, as applying the word to one individual. The French have three articles, *le*, *la*, and *les*; the Italians have their *il*, *lo*, and *la*; and the Germans their *der*, *das*, and *dat*.

ARTICULARIS MORBUS, the same with the gout. See the article GOUT.

ARTICULATE SOUNDS are such sounds as express the letters, syllables, or words of any alphabet or language: such are formed by the human voice, and by some few birds, as parrots, &c. Other brutes cannot articulate the sounds of their voice.

ARTICULATED, something furnished with, or consisting of joints.

ARTICULATION, in anatomy, denotes the juncture of two bones, intended for motion.

Articulation is of two kinds; the first is called diarthrosis, being that which has a manifest motion. That which only admits of an obscure motion, is called synarthrosis.

The former is subdivided into enarthrosis, arthrodia, and ginglymus. See the article ENARTHROSIS, &c.

The latter is subdivided into symphysis, syntenosis, sutura, harmonia, syssarcosis, synchondrosis, and synneurosis. See the articles SYMPHYSIS, &c.

ARTIFICER, a person whose employment it is to manufacture any kind of commodity, as in iron, brass, wool, &c. such are smiths, weavers, carpenters, &c. If any such conspire not to work under certain prices, they are liable to divers penalties. Persons that contract with artificers in wool or metals to go out of the kingdom, shall be fined in any sum not exceeding 100 l. and imprisoned for three months. If artificers, that are abroad, do not return in six months after warning, they shall be deemed aliens, and be incapable of inheriting lands by descent.

ARTIFICIAL, in a general sense, denotes something made, fashioned, or produced by art, in contradistinction to the productions of nature.

This term is as extensive as the works of art: thus we say, artificial day, globe, fountain, lightening, magnet, rainbow, &c. See the articles DAY, GLOBE, &c.

ARTILLERY, large fire-arms of all sorts, with their appurtenances, as cannons, mortars, bombs, petards, musquets, carabines, &c. See the articles CANNON, MORTAR, &c.

Some ascribe the invention of artillery to Albertus; yet there is reason to believe that they are mistaken. John Matthew de Luna, who lived 150 years ago, maintains, though against the constant opinion of Polydorus, Magius, Mayer, Pancirollus, Flurentius, Rivolt, and Bezoldus, that Albertus Magnus found out the use of great guns, fusils, and pistols; but we cannot find, in all these authors, any thing which comes near this opinion, except that the experiment was made of these engines in his time by a German monk named Berthold Schuartz, or by a chemist who lived in the city of Cologn, where Albertus resided, after he took the habit of a Dominican.

ARTILLERY-PARK, the place in the rear of both lines, in the army, for encamping the artillery, which is drawn up in lines, of which one is formed by the guns: the ammunition waggons make two or three lines, sixty paces behind the guns, and thirty distant from one another: the pontoons and tumbrils make the last line. The whole is surrounded with a rope, which forms the park; the gunners and matrosses encamp on the flanks, and the bombardeers, pontoon-men, and artificers, in the rear.

ARTILLERY-TRAIN, a certain number of pieces of ordnance, mounted on carriages, with all their furniture fit for marching, as mortar-pieces, cannons, bombs, carcasses, &c. There are trains of artillery in most of the king's magazines, as at the Tower, Portsmouth, Plymouth, &c.

The writers upon artillery are Casimir, Semionowitz, Brechtelius, Buchnerus, Braunius, Mieth, and S. Remy, in his memoirs d'Artillerie, which contains an accurate description of all the machines and instruments of war.

The term artillery is also applied to the antient instruments of war, as the catapulta, battering-ram, &c.

ARTILLERY-COMPANY, a band of infantry, consisting of six hundred men, making part of the militia or city guard of London.

ARTIST, a person skilled in some art. See the article ART.

ARTOIS, a province of the french Netherlands, situated between Flanders and Picardy.

ARTOTYRITES, in church-history, a sect of christians who used bread and cheese in the eucharist, or bread, perhaps, baked with cheese; urging, in defence of

of this practice, that in the first ages of the world, men offered to God the fruits of their flocks, as well as those of the earth.

ARVALES FRATRES, in roman antiquity, a college of twelve priests, instituted by Romulus, who himself made one of the body: they assisted in the sacrifices of the ambervalia, offered annually to Ceres and Bacchus, for the prosperity of the principal fruits of the earth, *viz.* those of corn and wine.

ARUBA, a small island on the coast of Terra Firma, subject to the Dutch, and situated in 69° 30′ west longitude, and 12° 30′ north latitude.

ARUM, WAKE-ROBIN, or CUCKOW-PINT, in botany, a genus of plants, the flower of which consists of one petal, resembling in some measure a hare's ear; and its fruit is a roundish, unilocular berry, containing several seeds of the same shape.

This genus belongs to the *gynandria polyandria* class of Linnæus, who makes it comprehend the *arum, arisarum, colocasia*, and *dracunculus* of other botanists.

The root of arum is esteemed good in scorbutic cases, in the asthma, and obstructions of the bronchia, *&c.*

ARUNDEL, a town of Sussex, situated on a river of the same name, in 30′ west longitude, and 50° 45′ north latitude.

It gives the title of earl to the noble family of the Howards, and sends two members to parliament.

ARUNDO, COMMON REED, in botany, a genus of the triandria digynia class of plants, the calyx of which is a glume formed of two oblong, acuminated valves, not aristated, one longer than the other. The corolla is formed of two valves of the length of the cup, of an oblong, acuminated figure, with a lanuginous matter at the base, of the length of the flower: the corolla adheres to the seed, and serves as a pericarpium: the seed is single, oblong, pointed, and downy at the base.

ARUSPICES, or HARUSPICES, an order of priesthood, among the Romans, that pretended to foretel future events by inspecting the entrails of victims killed in sacrifice; they were also consulted on occasion of portents and prodigies. It appears that women were admitted into this order.

ARYTÆNOIDES, in anatomy, the name of two cartilages, which, together with others, constitute the head of the larynx. It is also applied to some muscles of the larynx.

ARYTÆNOIDEUS, in anatomy, one of the muscles that closes the larynx, having its head in one arytænoid cartilage, and its tail in the other; serving at once to bring them together, and to shut the rima, or glottis.

ARYTHMUS, ἀῤῥυθμος, in medicine, the want of a just modulation in the pulse. It is opposed to eurythmus, a pulse modulated agreeably to nature.

ARZEL, among sportsmen, is said of a horse that has a white mark upon the far foot behind.

ARZILLA, a sea-port town of the empire of Morocco, situated about fifteen miles south of Tangier, in 5° 40′ west longitude, and 35° 40′ north latitude.

AS, in antiquity, a particular weight, consisting of twelve ounces; being the same with *libra*, or the roman pound.

As was also the name of a roman coin, which was of different matter and weight, according to the different ages of the commonwealth.

It is also used to signify an integer, divisible into twelve parts, from which last acceptation it signified a whole inheritance. The *as* had several divisions, the principal of which were the *uncia*, or ounce, being the twelfth part of the *as*; *sextans*, the sixth part of the *as*; *quadrans*, the fourth part; *triens*, the third part; and *semis*, half the *as*, or six ounces. *Bes* was two thirds of the *as*, or eight ounces; and *dodrans*, three-fourths of the *as*.

ASA, in the materia medica, a name given to two very different vegetable productions, distinguished by epithets expressive of their smell.

Asa fœtida is a very stinking gum, drawn, according to Kemfer, from the root of an umbelliferous plant, which grows in the province of Chorasan, in Persia. It has large, thick roots, with few fibres, black without, but very white within, and full of a white fœtid juice, and is recommended in medicine to promote the menses, in hysteric affections, and in all nervous complaints.

ASA DULCIS. See the article BENSOIN.

ASAPH, or St. ASAPH, a city of Flintshire, in north Wales, situated about twenty miles north-west of Chester, in 3° 30′ west long. and 53° 18′ north lat.

ASAPPES, or AZAPES, in the turkish armies, a name given to the auxiliary troops which they raise among the christians

tians under their dominion, and expofe to the firft fhock of the enemy.

ASARUM, or ASARABACCA, in botany, a genus of plants, without any flower-leaves, and belonging to the *dodecandria monogynia* clafs of Linnæus. Its fruit is a coriaceous capfule, divided into fix cells, and containing a great many oval feeds. See plate XXII. fig. 3.

Afarum is a powerful emmenagogue, and recommended by fome in the gout, dropfy, and many other chronic complaints.

ASBESTINE, whatever partakes of the nature of the afbeftus, as afbeftine paper, afbeftine cloth. See the next article.

ASBESTUS, ἄσβεστος, in natural hiftory, a fibrofe, flexile, incombuftible, and elaftic body, compofed of fingle and continuous filaments.

There are many fpecies of afbeftus, with which the antients were well acquainted; and the art of fpinning and making it into cloth, was certainly well known among them. Signor Ciampi, of Rome, was fuccefsful enough to make cloth of fome of the kinds, by fteeping the ftone in water, opening and dividing it with his hands, and then gently carding it as wool, and fpinning it from off the cards with much care into a coarfe thread; which being worked into a cloth, by the help of other thread to hold it together, and thrown into the fire, left the compofition intirely of afbeftus. Some writing paper made of afbeftus is preferved in the Britifh Mufeum at London. For the other properties of the afbeftus, fee the article AMIANTHUS.

ASCARIDES, in medicine, a flender kind of worms, not unfrequently voided by ftool. See the article WORMS.

ASCENDANT, ASCENDENT, or ASCENDING LINE, among lawyers, is meant of anceftors, or fuch relations as are nearer the root of the family. Such are the father, grandfather, great uncle, &c. Marriage is always forbidden between the afcendants and defcendants in a right line.

ASCENDANT, in aftrology, that degree of the equator which rifes above the horizon in the eaft, when any perfon is born, called alfo the angle of the firft houfe in a fcheme of horofcope.

ASCENDENS OBLIQUUS, in anatomy, the fame with the obliquus internus abdominis. See the article OBLIQUUS.

ASCENDING, in aftronomy, is faid of fuch ftars as are rifing above the horizon, in any parallel of the equator.

ASCENDING *latitude of a planet*. See the article LATITUDE.

ASCENDING NODE. See the article NODE.

ASCENDING SIGNS, among aftrologers, thofe rifing from the nadir towards the zenith.

ASCENDING VESSELS, in anatomy, thofe which carry the blood upwards, as the aorta afcendens, and vena cava afcendens. See the articles AORTA and VENA.

ASCENSION, *afcenfio*, denotes, in general, a rifing, or moving upwards.

ASCENSION, in aftronomy, the rifing of the fun or a ftar, or any part of the equinoctial with it, above the horizon, is either right or oblique.

Right afcenfion is that degree of the equator, reckoned from the beginning of aries, which rifes with the fun or a ftar, in a right fphere. It is found by the following proportion. As the radius to the cofine of the fun or ftar's greateft declination, fo is the tangent of the diftance from aries to libra, to the tangent of right afcenfion.

Oblique afcenfion is that degree and minute of the equinoctial, counting from the beginning of aries, which rifes with the center of the fun or a ftar, or which comes to the horizon at the fame time as the fun or ftar, in an oblique fphere. In order to find the oblique afcenfion, we muft firft find the afcenfional difference. See the article ASCENSIONAL, &c.

The arch of right afcenfion coincides with the right afcenfion itfelf, and is the fame in all parts of the globe. The arch of oblique afcenfion coincides with the oblique afcenfion, and changes according to the latitude of places.

Refraction of ASCENSION. See the article REFRACTION.

ASCENSION DAY, a feftival of the chriftian church, held ten days before Whitfuntide, in memory of our Saviour's afcending into heaven after his refurrection.

ASCENSION-ISLAND, an uninhabited ifland, lying almoft in the midway between Africa and Brazil, in 17° weft longitude, and 7° fouth latitude.

ASCENSIONAL, in a general fenfe, fomething belonging to afcent, or afcenfion. See the article ASCENSION.

ASCENSIONAL DIFFERENCE, the difference between the right and oblique afcenfion of any point in the heavens; or it is the fpace of time, that the fun rifes or fets before or after fix o'clock.

The afcenfional difference may be found by this proportion, *viz.* As the radius is to

to the latitude of the place, fo is the tangent of the fūn's declination to the fine of the afcenfional difference; by fubtracting of which from the right afcenfion, when the fun is in the northern figns, and adding it, when the fun is in the fouthern ones, you will find the oblique afcenfion.

ASCENT, *afcenfus*, in a general fenfe, the motion of a body upwards.

The afcent of light bodies is now well known to be owing to the preponderancy of heavier ones, whereby they are impelled upwards.

ASCENT *of bodies on inclined planes.* See the article PLANE.

ASCENT *of fluids*, is particularly underftood of their rifing above their own level between the furfaces of nearly contiguous bodies, or in flender capillary glafs tubes, or in veffels filled with fand, afhes, or the like porous fubftance. See the articles FLUID and ATTRACTION.

ASCENT *of Vapours*. See the articles CLOUD and EXHALATION.

ASCENT, in aftronomy. See ASCENSION.

ASCETICS, in church-hiftory, fuch chriftians in the primitive church as inured themfelves to great degrees of abftinence and fafting, in order to fubdue their paffions. In fhort, every kind of uncommon piety laid claim to the name afcetic.

The afcetics of St. Bafil is the title of a book upon fpiritual exercife.

ASCHAFFENBURG, a city of Germany, fituated on the river Mayne, in the circle of the lower Rhine, about twenty miles eaft of Frankfort, in 9° eaft longitude, and 50° 15′ north latitude.

ASCII, among geographers, an appellation given to thofe inhabitants of the earth, who, at certain feafons of the year, have no fhadow: fuch are all the inhabitants of the torrid zone, when the fun is vertical to them.

ASCITES, in medicine, the common dropfy. See the article DROPSY.

ASCLEPIAD, *afclepiadeus*, in antient poetry, a verfe compofed of four feet, the firft of which is a fpondee, the fecond a choriambus, and the two laft dactyls; or of four feet and a cæfura, the firft a fpondee, the fecond a dactyl, after which comes the cæfura, then the two dactyls, as

Mæcenas atavis edite regibus.

ASCLEPIAS, SWALLOW-WORT, in botany, a genus of the pentandria digynia clafs of plants, the calyx of which is a permanent perianthium, divided into five acute and fmall fegments; the corolla confifts of a fingle petal, divided into five deep fegments at the mouth; and its fruit confifts of two follicles or vaginæ, containing a great number of imbricated feeds, winged with down. See plate XXII. fig. 4.

The root of this plant is efteemed fudorific, emmenagogue, and is frequently prefcribed as an alexipharmic, efpecially among the Germans: it appears to poffefs much the fame medicinal virtues with valerian, only that this laft is indifputably preferable to it. See VALERIAN.

ASCODRUTÆ, in church hiftory, a fort of gnoftics, who placed all religion in knowledge, and under pretence of fpiritual worfhip, would admit of no external or corporeal fymbols whatever.

ASCOLI a city in the marquifate of Ancona, in Italy, fituated on the river Tronto, in 15° eaft longitude, and 42° 50′ north latitude.

ASCOLI is alfo a city of the kingdom of Naples, fituated in the province of Capitonata, in 16° 30′ eaft longitude, and 41° 15′ north latitude.

ASCOLIA, in grecian antiquity, a feftival celebrated by the athenian hufbandmen, in honour of Bacchus, to whom they facrificed a he-goat, becaufe that animal deftroys the vines. Out of the victim's fkin it was cuftomary to make a bottle, which, being filled with oil and wine, fell as a reward to him who firft fixed himfelf upon it with one foot.

ASCYRUM, in botany, a genus of plants with a rofaceous flower, and an oblong capfular fruit, formed of two valves, and containing a number of fmall, roundifh feeds. It belongs to the *polyadelphia polyandria* clafs of Linnæus, and is fo nearly allied to the *hypericum*, that Tournefort makes them the fame genus; from which however, it is diftinguifhed, by having only four petals, whereas the *hypericum* has five.

ASH, FRAXINUS, in botany. See the article FRAXINUS.

ASHBURTON, a town of Devonfhire, fituated about twenty-two miles fouthweft of Exeter, in 4° 15′ weft longitude, and 50° 30′ north latitude.

ASHBY DE LA ZOUCH, a market-town of Leicefterfhire, fituated about fifteen miles north-weft of Leicefter, in 1° 25′ weft longitude, and 52° 40′ north latitude.

ASHES, the earthy part of wood and other combuftibles, remaining after they are confumed by fire. Thefe, if produced from a vegetable, are of a white colour, and

and faltifh tafte, a few inftances excepted, and when boiled with fair water, yield a lixivium of an acrimonious alkaline fiery urinous tafte. The afhes of all vegetables are vitrifiable, and are found to contain iron.

Afhes of all kinds contain a very rich fertile falt, and are an excellent manure for cold and wet ground. They are alfo of confiderable ufe in making *lixiviums* or lyes, for the purpofes of medicine, bleaching, and for fugar works, and are diftinguifhed by various names, as pot-afhes, pearl-afhes, wood-afhes, and weed-afhes. See POT-ASH, *&c.*

The antients preferved the afhes of their dead anceftors in urns. See URN.

ASHFORD, a market town of Kent, fituated about twelve miles fouth-weft of Canterbury, in 45′ eaft longitude, and 51° 15′ north latitude.

ASIA, one of the four grand divifions of the earth, fituated between 25° and 148° eaft longitude, and between the equator and 72° north latitude, and bounded by the frozen ocean on the north, by the pacific ocean on the eaft, by the indian ocean on the fouth, by the red-fea on the fouth-weft, and by the mediterranean and euxine feas, *&c.* on the weft and north-weft; being 4800 miles long from eaft to weft, and 4300 broad from north to fouth.

Afia is fubdivided into the eaftern, middle, and weftern divifions; the firft comprehending the empire of China, chinefe Tartary, and the afiatic iflands lying fouth, and eaftward of China; the fecond or middle, comprehending India, Ufbec-tartary, Calmuc-tartary, and Siberia; and the third, or weftern divifion, comprehending Perfia, Arabia, Aftracan, Circaffian-tartary, and Turkey in Afia. In painting, Afia is reprefented by a woman, wearing a garland of various flowers and fruits; dreffed in a rich, embroidered veftment; holding in her right-hand, branches and roots of caffia, pepper, cloves, *&c.* and in her left, a fmoaking cenfer; with a camel kneeling by her.

Leffer ASIA, the fame with Natolia. See the article NATOLIA.

ASIATIC, fomething peculiar to Afia: thus we fay, afiatic ftile, afiatic fruits, *&c.* See the article STILE, *&c.*

ASIDE, in the drama, fomething faid by an actor, which fome, or even all the other actors prefent, are fuppofed not to hear; a practice juftly condemned, as being unnatural and improbable.

ASILUS, in the hiftory of infects, the hornet-fly, or wafp-fly.

ASINUS, the ASS, in zoology, See the the article ASS.

ASOPH, a city of Coban Tartary, fituated on the fouth fhore of the river Don, near its mouth, in 44° eaft longitude, and 47° 15′ north latitude.

ASP, *afpis*, in zoology, a fpecies of anguis. See the article ANGUIS.

ASPALATHUS, ASPALATH, in botany, a genus of the diadelphia-decandria clafs of plants, the calyx of which confifts of a fingle-leafed perianthium, divided into five fegments: the corolla is papilionaceous; the fruit is a roundifh, turgid, unilocular, bivalve pod; the feed is fingle, and frequently kidney-fhaped.

In the materia medica this plant is alfo called rofewood, and rhodianwood, and accounted by the antients an aftringent, but now is almoft quite rejected, as an internal medicine. An oil drawn from it is of an admirable fcent, and very comfortable to the head, where perfumes are not offenfive. It is chiefly ufed in fcenting pomatums and liniments. See RHODIUM LIGNUM.

ASPARAGUS, in botany, a genus of the hexandria monogynia clafs of plants, having no calyx: the corolla is of an oblong campanulated figure; it is compofed of fix petals, cohering at their tips: they are oblong formed into a tube, and tho' three inner ones are alternately placed, and reflex at the extremity, they are all permanent: the fruit is a roundifh berry, containing two fmooth feeds of the fame fhape.

The root of this plant is defervedly reckoned one of the five openers, and is an ingredient in all compofitions, intended to cleanfe the vifcera, efpecially where their obftructions threaten the jaundice and dropfy. It is likewife ufed in many diforders of the breaft, as operating by urine, it is of fervice in moft fuch cafes.

ASPECT, in aftronomy, denotes the fituation of the planets and ftars, with refpect to each other; whereof we find mention of five kinds: 1. Sextile afpect is when the planets or ftars are 60° diftant, and marked thus ⚹. 2. The quartile, or quadrate, when they are 90° diftant, marked □. 3. Trine, when 120° diftant, marked △. 4. Oppofition, when 180° diftant, marked ☍. And, 5. Conjunction,

junction, when both in the same degree, marked ☌.

Kepler, who added eight new ones, defines aspect to be the angle formed by the rays of two stars meeting on the earth, whereby their good or bad influence is measured; for it ought to be observed, that these aspects being first introduced by astrologers, were distinguished into benign, malignant, and indifferent; the quartile and opposition being accounted malign, the trine and sextile, benign or friendly, and the conjunction indifferent.

Double ASPECT, in painting, is used where a single figure is so contrived, as to represent two or more different objects, either by changing the position of the eye, or by means of angular glasses. See the articles MIRROUR and ANAMORPHOSIS.

ASPEN-TREE, in botany, the poplar with trembling leaves. See POPLAR.

ASPER, in grammar, an accent peculiar to the greek language, marked thus (῾) and importing that the letters over which it is placed, ought to be strongly aspirated, or pronounced as if an *h* were joined with them.

ASPER, or ASPRE, in commerce, a turkish coin, three of which make a medine, and worth something more than our half-penny.

ASPERA ARTERIA, in anatomy, the same with the wind pipe, or trachea. See TRACHEA and ARTERY.

ASPERIFOLIATE, or ASPERIFOLIOUS, among botanists, such plants as are rough leaved, having their leaves placed alternately on their stalks, and a monopetalous flower divided into five parts. Of this class are bugloss, borage, &c. See the articles BUGLOSS, &c.

ASPERITY, the inequality of the surface of any body, which hinders the hand from passing over it freely.

According to the testimony of blind persons, we have reason to believe that every colour hath its particular degree of asperity.

ASPERSION, the act of sprinkling.

ASPERUGO, in botany, a genus of the pentandria monogynia class of plants, the flower of which consists of one rotated petal, divided into several segments at the limb; and its calyx, which is divided like the flower-petal, contains the seeds, which are four in number, and of a roundish compressed figure. See plate XXII. fig. 5.

ASPERULA, WOODRUFFE, in botany, a genus of the tetrandria monogynia class of plants, the flower of which consists of one petal, divided into four segments at the limb; and its fruit is composed of two roundish, dry berries, adhering together, in each of which is a single seed of the same roundish shape.

The leaves and roots of this plant are esteemed aperient and diuretic, and consequently prescribed in the jaundice, and obstructions of the viscera.

ASPHALITES, a term applied by some anatomists to the fifth vertebra of the loins. See the article VERTEBRÆ.

ASPHALTUM, in natural history, a solid dry opake inflammable substance, found in Egypt, about the dead sea, and in many places of Europe, in detached masses of no regular structure, breaking easily in any direction, very light, fusible, and after burning some time with a greenish white flame, leaving a residuum of white ashes. Dr. Hill enumerates three species of it, the first being the bitumen judaicum, which is of a discutient quality, promotes the menstrual discharge, and enters as an ingredient into the venice treacle. See the article BITUMEN.

ASPHODEL, *asphodelus*, in botany, a genus of the hexandria monogynia class of plants, the flower of which is liliaceous, consisting of a single petal, divided into six segments; and its fruit is a globose-trilocular capsule, containing a number of triangular seeds, gibbous on one side. See plate XXIII. fig. 1.

The roots of asphodel are diuretic, and said to promote the menses: their ashes too, if rubbed on the affected part in an alopecia, cause new hair to grow.

ASPHURELATA, in natural history, are semi-metallic fossils, fusible by fire, and not malleable in their purest state, being in their native state intimately mixed with sulphur and other adventitious matter, and reduced to what are called ores.

Of this series of fossils, there are only five bodies, each of which makes a distinct genus, and these bodies are antimony, bismuth, cobalt, zinc, and hydrargyrum, or quicksilver. See the articles ANTIMONY, &c.

ASPIRATE, in grammar, denotes words marked with the spiritus asper. See the article ASPER.

ASPIRATION, *aspiratio*, among grammarians, is used to denote the pronouncing a syllable with some vehemence; as these words beginning with the letter H, *hear*, *heat*, which are pronounced more softly without the H, as *ear*, *eat*.

ASPIS, the ASP, in zoology, a ſpecies of anguis. See the article ANGUIS.

ASPLENIUM, MILT-WASTE, or SPLEEN-WORT, in botany, a genus of cryptogamious plants, the fructification of which is arranged in cluſters, and diſpoſed in form of ſtrait lines, under the diſk of the leaf. See plate XXIII. fig. 2.

This genus comprehends the *aſplenium*, *lingua cervina*, and *trichomanes* of different botaniſts.

ASS, *aſinus*, in zoology, a quadruped of the horſe-kind, with a long head, long ears, a round body covered with a ſhort and coarſe fur, of a pale dun colour, with a ſtreak of black running down its back, and acroſs the ſhoulders, and a tail not hairy all the way, as in a horſe, but only at the end.

The aſs is wild in many warm countries, and particularly in Africa. See the article ZEBRA.

ASSA, or ASA DULCIS and FOETIDA. See the article ASA.

ASSAI, in muſic, ſignifies *much*, and according to others, that the motion of the piece be kept in a middle degree of quickneſs or ſlowneſs. As aſſai allegro, aſſai preſto. See ALLEGRO and PRESTO.

ASSAILLANT, one that aſſaults another. See the article ASSAULT.

ASSARON, or OMER, a meaſure of capacity, in uſe among the Hebrews, containing five pints. It was the meaſure of manna, which God appointed for every Iſraelite.

ASSART, *aſſartum*, in law, an offence committed in a foreſt, by pulling up the trees by the roots. This is a greater treſpaſs than waſte.

A perſon, however, may ſue out a licence to aſſart ground in a foreſt; that is, to clear it, and make it arable: and from hence lands are called aſſarted, and formerly aſſart rents were paid to the crown for ſuch lands.

ASSASSIN, a perſon who kills another by attacking him at ſome diſadvantage. It is alſo meant of one who hires himſelf to murder a perſon to whom he is a ſtranger, in order to revenge the quarrel of another.

ASSATION, a term uſed in pharmacy, for a peculiar kind of decoction of plants in their own juice.

ASSAULT, in law, a violent injury offered to a man's perſon, being of a higher nature than battery; for it may be committed by offering a blow, or a terrifying ſpeech. In caſe a perſon threatens to beat another, or lies in wait to do it, if the other is hindered in his buſineſs, and receives loſs, it will be an aſſault, for which action may be brought, and damages recovered. Not only ſtriking, but thruſting, puſhing, caſting ſtones, or throwing drink in the face of any perſon, are deemed aſſaults.

In all which caſes a man may plead in his juſtification, the defence of his perſon or goods, father, mother, wife, maſter, *&c.*

ASSAULT, in the military art, a furious effort made to carry a fortified poſt, camp, or fortreſs, wherein the aſſailants do not ſcreen themſelves by any works: while the aſſault continues, the batteries ceaſe, for fear of killing their own men.

ASSAY, ESSAY, or SAY, in metallurgy, the trial of the goodneſs and purity of metals, and metalline ſubſtances. Hence,

ASSAYING, is the art of finding how much pure metal is contained in every ore, or the proportion of the ſeveral ingredients of any mixed metal: or it may be defined, the art of ſeparating metals, ſemi-metals, ſulphurs, and mineral ſalts from each other, and from other bodies mixed with them, ſo that it may appear, what quantity there was originally of each in the body under trial, or what benefit may be reaped from the extracting of it. See the article ORE.

All minerals are the objects of this art: for the bodies aforeſaid being ſeldom found naturally pure, and under their true form, but moſt commonly mixed and confounded with each other, a thouſand different ways, and with many kinds of earth and ſtones; it is proper that the workman ſhould know the nature of all theſe things, to be able to determine, what is requiſite for the ſeparation of them.

In order to the aſſaying of gold-ores, it muſt be obſerved, that the method varies according to the nature and diſpoſition of the mineral matters, along with which the metals happen to be mixed, whether it be ſtony, earthy, ſulphureous, arſenical, *&c.* The art of making aſſays with diſpatch upon gold and ſilver ores depends upon the ſcorification or vitrification of thoſe heterogeneous foſſile ſubſtances, which may be incorporated therewith: lead and the glaſs of lead, and antimony and its glaſs, being great ſcorificators or vitrifiers, they become the natural agents upon ſuch occaſions. See SCORIFICATION, VITRIFICATION, and QUARTATION.

The ultimate refinement of gold is thought to be that procured by fuſing it thin along with

with thrice its own weight of antimony, wherein the antimony tears away, and imbibes the ſubſtance of all the other metals, but leaves the gold untouched, which therefore, as the heavier body, falls like a regulus to the bottom of the melting cone. See the article ANTIMONY.

In caſe there is a ſmall or fine gold-ſand to aſſay, or a very rich and delicate ſlud, both the proof by a ſmall aſſay, and the extraction in the large way, are ſometimes effected by amalgamation. Thus a certain parcel of it being weighed out, it is mixed with a determinate proportion of mercury, eight or ten times its quantity, and a quantity either of ſimple or ſalt water poured warm to them in a ſtone-mortar; let them be ground together, for ſome time, with a wooden peſtle; then the ſand is dilated by the addition of a little more water, that the mercurial particles may firſt ſubſide, which being now connected into one maſs, the ſand, in a little baſon, is eaſily waſhed off; then the mercury, being ſqueezed through leather, the particles of gold, that were collected and imbibed by it, remain behind, mixed with about one third part of the mercury in the form of a ſoft maſs, or amalgam, which being expoſed in a little glazed diſh to a gentle fire, the mercury is thus evaporated, and leaves the gold in powder, which may now be weighed, to ſhew in what proportion the ſandy or ſluddy ore contains it. The like method of management will ſerve for the aſſaying of ſilver ores. See AMALGAMATION and SILVER.

Accurate aſſays upon the ores of the inferior metals, as lead, tin, copper, and iron, require proper furnaces, the due applications of fire, and ſuitable fluxes adapted to the reſpective ores; and indeed ores of the ſame kind frequently require different methods of aſſaying, as well as ſmelting. See the articles FLUX, SMELTING, FURNACE, TIN, &c.

In order to the due ſeparation of metals from metals, or of a confuſed mixture of metals, ſuch as thoſe commonly called electrums, or ſuch as the Corinthian braſs of old was ſuppoſed to be, we muſt obſerve, that experience has taught us a certain effect of lead, which could not be well conceived *a priori*: this is more effectually and ſooner done by a proper glaſs of antimony, *viz.* that, by fuſion upon the coppel, it reſolves all the imperfect metals, without exception, into their ſmalleſt atoms, and partly throws them up into its furnace, in the form of a half vitrified powdery ſubſtance, in part ſinks along with them into the coppel, and in part converts them into glaſs, ſo as to leave nothing behind, but pure gold and ſilver.

Aſſaying of gold, by coppelling is thus performed: to the gold to be aſſayed, add a double quantity of fine ſilver; then having heated a coppel furniſhed with a muffle, in a reverberatory fire, let a ball of lead, of a weight proportionable to the quantity of gold to be aſſayed, be melted in it: in this, the mixture of gold and ſilver is to fuſe till it appear of an equal colour, and has fixed itſelf in a little lump, at the bottom of the coppel. This lump, after cooling in the furnace itſelf, is to be taken out, and the proceſs again repeated, till the lead be conſumed; after which, let the remaining maſs be weighed, and its weight compared with that of the original ingredients, will ſhew the purity or impurity of the gold.

Another ſtill more accurate method of aſſaying gold, is by means of acid menſtrua, thus: Let a mixed maſs of gold and ſilver be melted, with three or four times that weight of pure ſilver. Let it, when cold, be beaten into a thin plate, and put into a glaſs of proof aqua fortis in warm ſand: then the ſilver will ſoon be diſſolved, and the gold will precipitate to the bottom, in a black powder: by decanting this ſolution of ſilver with proper care, this laſt operation may be repeated, by adding a little freſh aqua fortis to the gold, and ſetting it in a heat ſomewhat ſtronger than before, in order to diſſolve any remains of ſilver in the gold powder; then find the proportion as in the firſt proceſs. See GOLD.

The method of aſſaying ſilver is the ſame, only that lead is put into the crucible, proportioned to the quantity and quality of the ſilver to be aſſayed; and in this manner alſo are the aſſays of any mixture, of the nobler with the ignobler metals, made.

For the method of aſſaying gold or ſilver by means of the touch-needle. See the article TOUCH-NEEDLE.

ASSAYING of weights and meaſures, the examining the common weights and meaſures by the clerk of the market.

ASSAYING in muſic, a flouriſhing before one begins to play; or the running diviſions, to lead one into the piece before us.

ASSAY-

ASSAY-MASTER, an officer appointed by certain corporations to make a juft affay of all gold and filver brought to him, and to make a true report thereof.

ASSEMBLAGE, the uniting or joining of things together; or the things themfelves fo united, or joined. It is alfo ufed in a more general fenfe, for a collection of various things fo difpofed and diverfified, as that the whole produces fome agreeable effect.

ASSEMBLY, the meeting of feveral perfons, in the fame place, upon the fame defign.

ASSEMBLY, in the beau monde, an appointed meeting of fafhionable perfons of both fexes, for the fake of play, gallantry, converfation, *&c.*

ASSEMBLY, in the military art, the fecond beating of a drum before a march; at which the foldiers ftrike their tents, roll them, and ftand to arms.

ASSEMBLIES of the clergy are called convocations, fynods, councils; the annual meeting of the church of Scotland is called a general affembly.

ASSEMBLIES of the roman people were called comitia.

ASSENT, *affenfus*, in a general fenfe, an agreement to fomething propofed, or affirmed.

Affent is either explicit, by open declaration; or implicit, and inferred from certain circumftances.

As to the degrees of affent due to any propofition, it ought no doubt to be proportioned to the evidence offered for it. See the articles EVIDENCE, PROBABILITY, *&c.*

Royal ASSENT, the approbation given by the king to a bill in parliament, after which it becomes a law. See BILL.

ASSERTION, *affertio*, in the language of of the fchools, a propofition advanced by the affertor, who avows the truth of it, and is ready to defend it.

ASSESSOR, an inferior officer of juftice, appointed chiefly to affift the ordinary judge with his opinion and advice.

ASSESSOR is alfo one who affeffes, or fettles taxes, and other public dues.

ASSEVERATION, a pofitive and vehement affirmation of fomething.

ASSIDEANS, or HASSIDEANS, in jewifh antiquity. See the article HASSIDEANS.

ASSIENTO, a fpanifh word, fignifying a farm, in commerce, is ufed for a bargain between the king of Spain and other powers, for importing negroes into the fpanifh dominions in America, and particularly to Buenos Ayres. The firft affiento was made by the french Guinea company; and by the treaty of Utrecht, transferred to the englifh, who were to furnifh four thoufand eight hundred negroes annually.

ASSIGN, in common law, a perfon to whom a thing is affigned or made over.

ASSIGNEE, in law, a perfon appointed by another to do an act, tranfact fome bufinefs, or enjoy a particular commodity. Affignees may be by deed or by law: by deed, where the leffee of a farm affigns the fame to another; by law, where the law makes an affignee, without any appointment of the perfon intitled, as an executor is affignee in law to the teftator, and an adminiftrator to an inteftate. But when there is affignee by deed, the affignee in law is not allowed.

ASSIGNING, in a general fenfe, is the fetting over a right to another; and in a fpecial fenfe is ufed to fet forth and point at, as to affign an error, to affign falfe judgment, to affign wafte; in which cafes it muft be fhewn wherein the error is committed, where and how the judgment is unjuft, and where the wafte is committed.

ASSIGNMENT, the transferring the intereft one has in a leafe, or other thing, to another perfon. Affignments may be made of lands in fee for life or years, of an annuity, rent-charge, judgment, ftatute, *&c.*

Novel ASSIGNMENT. See the article NOVEL ASSIGNMENT.

ASSIMILATION, in phyfics, called alfo motion of multiplication, and motion of fimple generation, is that motion by which bodies convert other bodies related to them, or at leaft fuch as are prepared to be converted, into their own fubftance and nature. Thus flame multiplies itfelf upon oily bodies, and generates new flame; air upon water, and produces new air; and all the parts, as well fimilar as organical, in vegetables and animals, firft attract with fome election or choice, nearly the fame common, or not very different juices for aliment, and afterwards affimilate, or convert them into their own nature.

ASSISA, in law, the fame with affife. See the article ASSISE.

ASSISA CADERE fignifies to be nonfuited.

ASSISA NOCUMENTI, an affife of nuifance.

ASSISA *cadit in juratam* fignifies the thing in controverfy to be fo doubtful, that it muft be tried by a jury.

ASSISA

Assisa *continuanda*, a writ iſſued to the juſtices of aſſiſe, for the continuance of a cauſe, where certain records alledged cannot be produced by the party.

Assisa *proroganda*, a writ directed to the juſtices of aſſiſe, to ſtay proceedings, on account of the party's being employed in the king's buſineſs.

Assisa *panis & cerviſiæ*, the power of adjuſting the weight and meaſure of bread and beer.

Assisæ *judicium*, the judgment of the court given againſt the plaintiff or defendant, for default.

ASSISE, in old law-books, is defined to be an aſſembly of knights and other ſubſtantial men, with the juſtice, in a certain place, and at a certain time: but the word, in its preſent acceptation, is uſed for the court place, or time, when and where the writs and proceſſes, whether civil or criminal, are decided by judges and jury. In this ſignification, aſſiſe is either general, when judges make their reſpective circuits, with commiſſion to take all aſſiſe; or ſpecial, where a commiſſion is granted to particular perſons for taking an aſſiſe upon one or two diſſeiſins only. By Magna Charta, juſtices ſhall be ſent through every county, once a year, who, with the knights of the ſeveral ſhires, ſhall take aſſiſe of novel diſſeiſin: and as to the general aſſiſe, all the counties of England are divided into ſix circuits, and two judges are aſſigned by the king's commiſſion to every circuit, who now hold the aſſiſes twice a year, in every county, except Middleſex, where the courts of record ſit, and the counties palatine. Theſe judges have five ſeveral commiſſions: 1. Of oyer and terminer, by which they are empowered to try treaſons, felonies, &c. 2. Of gaol-delivery, which empowers them to try every priſoner in gaol, for whatever offence he be committed. 3. Of aſſiſe, which gives them power to do right upon writs brought by perſons wrongfully thruſt out of their lands and poſſeſſions. 4. Of niſi prius, by which civil cauſes come to iſſue in the courts above, are tried in the vacation by a jury of twelve men, in the county where the cauſe of action ariſes. 5. A commiſſion of the peace in every county of the circuit: and all juſtices of peace of the county, and ſheriffs, are to attend upon the judges, otherwiſe they ſhall be fined.

Assise is uſed in ſeveral other ſignifications; as, 1. For a jury, where aſſiſes of novel diſſeiſin are tried, and the pannels of aſſiſe ſhall be arraigned. See the next article. 2. For a writ for recovery of the poſſeſſions of things immoveable, of which a perſon and his anceſtors have been diſſeiſed. 3. For an ordinance or ſtatute, as the aſſiſe of the foreſt, a ſtatute concerning orders to be obſerved in the king's foreſt. 4. For a quantity of wheat, bread, &c. preſcribed by a ſtatute, as we ſay, when wheat is of ſuch a price, bread ſhall be of ſuch an aſſiſe.

Assise *of novel diſſeiſin* is a writ that lies where a tenent in fee ſimple, fee tail, or for term of life, is put out and diſſeiſed of his lands, tenements, rents, common of paſture, common way, &c. A writ of aſſiſe may ſometimes be had by a perſon, when he cannot have treſpaſs *vi & armis*; as where a lord enters on lands, and diſtrains his tenant ſo often, when nothing is due, that the tenant is diſturbed in manuring his lands; in ſuch caſe he may have *aſſiſe de ſouvent fois diſtreſs*; but he cannot bring treſpaſs againſt his lord.

Assise *of mort d'anceſtor* is a writ which lies where a perſon's father, mother, brother, &c. died ſeiſed of lands and tenements in fee, and after either of their deaths, a ſtranger abateth. See the article Cosinage.

Assise *of darrein preſentment*. See the article Quare impedit.

Assise *of utrum* lieth for a parſon againſt a layman, or a layman againſt a parſon, for lands or tenements doubtful whether they be lay-fee or free-alms.

This, and the three preceding writs of aſſiſe, in reſpect to the grand aſſiſe, are called petit aſſiſes; for as the grand aſſiſe ſerves for the right of property, ſo the petit aſſiſe ſerves to ſettle the right of poſſeſſion.

ASSISER, or Assizer, *of weights and meaſures*, an officer, who has the overſight of thoſe things. See the article Clerk *of the market*.

ASSISIS, or *Non ponendo in* Assisis. See the article Non ponendo.

ASSISTANT, a perſon ſubſtituted to attend a principal officer, for the more eaſy and regular diſcharge of his function.

Assistant, in roman catholic countries, a name given to a ſort of counſellors added to the ſuperiors of monaſteries, &c.

Assistants are alſo thoſe appointed to aſſiſt at the execution of a criminal.

ASSIZE, or Assise. See Assise.

ASSOCIATE, a partner, adjunct, fellow, or companion. See the next article.

ASSO-

ASSOCIATION, the act of associating or constituting a company, society, or partnership, wherein two or more persons unite for their mutual interest, or the joint carrying on an affair, *&c.*

ASSOCIATION *of ideas* is where two or more ideas constantly and immediately follow one another, so that the one shall almost infallibly produce the other, whether there be any natural relation between them, or not.

When our ideas have a natural correspondence and connection one with another, it is the office and excellency of our reason to trace these, and hold them together, in that union and correspondence, which is founded in their peculiar beings. But when there is no affinity between them, nor any cause to be assigned for their accompanying each other, but what is owing to mere accident or custom; this unnatural association becomes a great imperfection, and is, generally speaking, a main cause of error, or wrong deductions in reasoning.

To this wrong association of ideas, made in our minds by custom, Mr. Locke attributes most of the sympathies and antipathies observable in men, which work as strongly, and produce as regular effects, as if they were natural, tho' they at first had no other original than the accidental connection of two ideas, which either by the strength of the first impression, or future indulgence, are so united, that they ever after keep company together in that man's mind, as if they were but one idea.

The ideas of goblins and spirits have really no more to do with darkness than light; yet, let but these be inculcated often in the mind of a child, and there raised together, possibly he shall never be able to separate them again as long as he lives, but darkness shall ever afterwards bring with it these frightful ideas.

So if a man receive an injury from another, and thinks on the man and that action over and over, by ruminating on them strongly, he so cements these two ideas together, that he makes them almost one; he never thinks on the man, but the place and displeasure he suffered, come into his mind with it, so that he scarce distinguishes them, but has as much aversion for the one as the other. Thus, hatreds are often begotten from slight and almost innocent occasions, and quarrels are propagated and continued in the world.

Nor is its influence on the intellectual habits less powerful, tho' less observed. Let the ideas of being and matter be strongly joined, either by education or much thought, whilst these are still combined in the mind, what notions, what reasonings will there be about separate spirits? Let custom, from the very childhood, have joined figure and shape to the idea of God; and what absurdities will that mind be liable to about the deity? Some such wrong and unnatural associations of ideas will be found to establish the irreconcileable opposition between different sects of philosophy and religion; for we cannot suppose that every one of their followers will impose wilfully on himself, and knowingly refuse truth offered by plain reason. Some independent ideas, of no alliance to one another, are, by custom education, and the constant din of their party, so coupled in their minds that they always appear there together, and they can no more separate them in their thoughts, than if they were but one idea, and they operate as if they were so.

ASSOCIATION, in law, is a writ or patent sent by the king, either of his own motion, or at the suit of the plaintiff, to the judges of assise, to have others associated to them, to take the assise. Upon this patent of association, the king sends his writ to the justices of the assise, commanding them to admit these that are so sent.

ASSOILE, in our antient law-books, to absolve, free, or deliver one from excommunication.

ASSONANCE, in rhetoric or poetry, is where the words of a phrase or verse have nearly the same sound, or termination, but make no proper rhyme: these are usually accounted vicious in english, though the Romans sometimes used them with elegancy: as, *Militem comparavit, exercitum ordinavit, aciem lustravit.*

ASSONANT RHYMES, a resemblance of sound, not unfrequently used by spanish poets, instead of true rhymes; as *ligera* and *cubierta*.

ASSOS, a sea-port town of Natolia, situated about twelve miles south-east of Troas, in 27° 30′ east longitude, and 38° 30′ north latitude.

ASSUMPSIT, a voluntary or verbal promise, whereby a person assumes, or takes upon him to perform or pay any thing to another. When any person becomes legally indebted to another for goods sold, the law implies a promise that he will pay his debt; and if he do not pay it, the writ indebi-

indebitatus assumpsit lies against him; and will lie for goods sold and delivered to a stranger, or third person, at the request of the defendant: but the price agreed on must be proved, otherwise that action does not lie.

ASSUMPTION, a festival in the romish church, in honour of the miraculous ascent of the Virgin Mary, body and soul, into heaven: The greek church, who also observe this festival, celebrate it on the fifteenth of August, with great ceremonies.

ASSUMPTION, in logic, is the minor or second proposition in a categorical syllogism.

ASSUMPTION is also used for a consequence drawn from the propositions whereof an argument is composed. See the article CONSEQUENCE.

ASSUMPTION, in geography, a city of south America, situated near the mouth of the river Plata, and on the opposite shore to Buenos Ayres, in 60° west lon. and 34° south lat.

ASSUMTIVE ARMS, in heraldry, are such as a person has a right to assume, with the approbation of his sovereign, and of the heralds: thus, if a person, who has no right by blood, and has no coat of arms, shall captivate, in any lawful war, any gentleman, nobleman, or prince, he is, in that case, entitled to bear the shield of that prisoner, and enjoy it to him and his heirs for ever.

ASSURANCE, in logic. See the articles CERTITUDE, EVIDENCE, and DEMONSTRATION.

ASSURANCE, or INSURANCE, in commerce. See the article INSURANCE.

Policy of ASSURANCE, a sort of contract, wherein one or more persons are become bound to make good any damages which may befal a ship, house, *&c.* by means of sea, fire, *&c.* or the like damages. See the article POLICY.

There are several offices of assurance from fire in London, as the Royal-exchange assurance, the Sun fire-office, the Hand-in-hand fire-office, the London assurance, *&c.* See the article INSURANCE.

There are also offices of assurance for life, in virtue whereof, when the person assured dies, a sum of money, as was agreed upon, becomes due to the person to whom the policy of assurance was granted.

ASSUROR, a merchant, or other person, who makes out a policy of assurance, and thereby insures a ship, house, or the like.

The assuror is not liable for what damages may arise from the negligence or other faults of the masters or mariners; or even from any defect in the things assured.

ASSURRITANI, in church-history, christian heretics, a branch of the donatists, who held, that the son was inferior to the father, and the holy ghost to the son: they rebaptized those who embraced their sect; and asserted that good men only were within the pale of the church.

ASSYRIA, an antient empire of Asia, comprehending the modern provinces of Curdistan, Diarbec, and Irac-arabic.

ASSYTHMENT, in the law of Scotland, is a compensation given for a man slain.

ASTER, STAR-WORT, in botany, a genus of the *syngenesia-polygamia* class of plants, with a radiated flower, the disk of which is composed of floscules, and its border of semifloscules; the receptacle is plane and naked, and the seeds are of an oblong figure, oval at top, and winged with down. See plate XXIII. fig. 3.

The seeds of star-wort are accounted deobstruent, its flowers cardiac, its leaves vulnerary, and the roots sudorific and alexipharmic, and consequently good in disorders of the breast and lungs.

ASTER SAMIUS, SAMIAN EARTH. See the article SAMIAN EARTH.

ASTERABAT, a city of Persia, capital of a province of the same name, situated on the southern shore of the caspian sea, in 54° east long. and 37° 30′ north lat.

ASTERIA, in natural history, a beautiful pellucid gem of variable colours, as viewed in different lights; called also *oculus cati*, or cat's-eye.

The variable colours, which are a pale brown and white, seem to be lodged deep in the stone, and shift about as that is moved. It is nearly allied to the opals, from which, however, it is distinguished by its colour and superior hardness.

ASTERIA is also the name of an extraneous fossil, called in english the star-stone. See the article STAR-STONE.

ASTERIAS, in zoology, the star-fish. See the article STAR-FISH.

ASTERISK, a mark, in form of a star, *, placed over any word or sentence, to render it more conspicuous, or to refer the reader to the margin, or elsewhere, for a quotation, explanation, or the like.

ASTERISM, in astronomy, the same with constellation. See CONSTELLATION.

ASTEROPODIUM, a kind of extraneous fossil, of the same substance with the *asteriæ*,

teriæ, or ftar-ftones, to which they ferve as a bafe. See the article STAR-STONE.

ASTHMA, in medicine, a painful, difficult, and laborious refpiration, occafioned by intolerable ftraitnefs of the lungs, which, as it difturbs the free circulation of the blood through the lungs, endangers a fuffocation.

This diforder is attended with violent motions of the diaphragm, abdominal and intercoftal mufcles, to the very fcapula, and pinnæ of the noftrils. It is ufually divided into pneumonic and convulfive; the former of which is generally occafioned by abounding in grofs, vifcuous, or purulent humours, collected in the cavities of the lungs, which ftop up the paffages of the air, and comprefs the bronchia. That kind called the convulfive afthma is occafioned by an irregular motion of the animal fpirits, either by reafon of an obftruction, or fome other obftacle.

The afthma is either continual, or intermitting and periodical, and returns commonly when a fober regimen is not obferved.

This diforder proves moft violent while the patient is in bed, and in a prone pofture, as in that cafe the contents of the lower belly bearing againft the diaphragm, leffen the capacity of the breaft, and leave the lungs lefs room to play.

The cure of the true or pneumonic afthma is by bleeding, after which emetics may be ufed; and if the paroxyfm returns, epifpaftics, with glyfters inftead of purges. Infufions of *fim. equin.* or the juices thereof, are accounted excellent. Oxymel of quills and fimple cinnamon-water, or garlic, are good in cafe of vifcid and tough humours, where anodynes are very hurtful.

For the convulfive kind, the cure is attempted by antepileptics, antihyfterics, antifpafmodics, opiates, &c. In the time of the fit, a glyfter is to be immediately given, and if no other ingredients for it be in readinefs, recent urine will ferve; after this, bleeding is to be ordered, unlefs where there is a contra-indication, and after this the emotion of the blood is to be allayed by nitrous and cinnabarine powders; with thefe the gentle diaphoretics may be joined, efpecially in cafe of of a fever attending it, which very frequently happens. Where the cafe is very urgent, a fmall dofe of the ftorax pill may be added to the powder, to be taken at night. Externally, fpirit of wine and camphire may be rubbed on the breaft and fhoulders, efpecially where the patient has been ufed to cupping, and has neglected it; rubbing the fhoulders with a flannel, often has a good effect alfo; and fumigations may be ufed of amber, ftorax, and maftich, with the flowers of citrine ftæchas. When the fit is off, the patient fhould ufe frequent wafhing the feet in warm water, and fhould be always blooded in the foot in fpring and fall; he fhould alfo take gentle purges at times, and if the neglect of habitual cuppings, or fuppreffions of the hæmorrhoids, or, in women of the menfes, have concurred, great care is to be taken to bring all back to their old ftate again, otherwife no radical cure can be expected: finally, a mixture of fpirit of hart's-horn, and tincture of falt of tartar, fhould be given to promote an equal diftribution of the blood to all parts of the body.

ASTI, a city of Piedmont, in Italy, fituated upon the river Panaro, about thirty miles eaft of Turin, in 8° 15′ eaft long. and 44° 40′ north latitude.

ASTORGA, a city of the province of Leon, in Spain, fituated on the river Inerto, about thirty miles fouth-weft of Leon, in 6° 20′ weft long. and 42° 20′ north latitude.

ASTRACAN, a city of afiatic Ruffia, and capital of a kingdom of the fame name. It is fituated on the eaftern fhore of the river Wolga, about eighty miles north of the Cafpian fea, in 52° eaft longitude, and 47° north latitude.

ASTRÆA, in aftronomy, the fame with virgo. See the article VIRGO.

The poets feign that Juftice quitted heaven to refide on earth, in the golden age; but, growing weary of the iniquities of mankind, fhe left the earth, and returned to heaven, where fhe commenced a conftellation of ftars, and from her orb ftills looks down on the ways of men.

ASTRAGAL, in architecture, a little round moulding, in form of a ring, ferving as an ornament at the tops and bottoms of columns. See COLUMN.

Sometimes the aftragal ferves to feparate the fafciæ of the architrave; in which cafe it is wrought chaplet-wife, with beads and berries. It is alfo ufed both above and below the lifts, adjoining immediately to the dye, or fquare of the pedeftal.

ASTRAGAL, in anatomy. See the article ASTRAGALUS.

ASTRAGAL, in gunnery, a round moulding incompaffing a cannon, about half a foot from its mouth.

ASTRAGALOIDES, WOOLY-ASTRAGALUS, in botany, a genus of the *diadelphia decandria* clafs of plants, with a papilionaceous flower, and an oblong unilocular-podded fruit, containing feveral kidney-like feeds.

ASTRAGALUS, MILK-VETCH, in botany, a genus of the *diadelphia-decandria* clafs of plants, with a papilionaceous flower, and bilocular-podded fruit, containing kidney-like feeds.

Aftragalus is faid to be diuretic, and good for increafing the milk of wet nurfes.

ASTRAGALUS, ἀστράγαλος, in anatomy, called alfo the *talus*, is the fuperior and firft bone of the foot, according to its natural fituation and connection with the leg, being articulated with the tibia and fibula, and with the calcaneum; having its head formed for the articulation with the os naviculare.

ASTRAL, fomething belonging to, or connected with the ftars: thus, aftral year is the fame with fiderial year.

ASTRANTIA, BLACK MASTER-WORT, in botany, a genus of umbelliferous plants, belonging to the *pentandria digynia* clafs of Linnæus, the flower of which is rofaceous, and collected into a fort of head; and its fruit is oval, obtufe, coronated, and ftriated. See plate XXIII. fig. 5.

ASTRICTION, among phyficians, denotes the operation of aftringent medicines. See the next article.

ASTRINGENTS, *aftringentia*, in pharmacy, medicines of the corroborative clafs, which, acting as a ftimulus, crifp and corrugate the fibres into a more compact tone; corroborate the folids, which are weakened, and confolidate fuch as are corroded and wounded. Among the medicines of this clafs may be reckoned the herbs bunias, woad, cud-weed, rupture-wort, mint, yarrow, pimpinella, oak, fanicle, and nettles; the flowers of balauftines, red rofes; the fruits of barberries, chefnuts, quinces, cyprefs-nuts, galls, acorns, pomegranates, medlars, mulberries, myrtleberries, hurtleberries, floes, rafpberries, fervices, and pine-apples; the bark of cinnamon, pomegranates, oak, and cork-tree; and the roots of biftort, tormentilla, and ofmund-royal.

ASTROGNOSIA, the fcience of the fixed ftars, or the knowledge of their names, conftellations, magnitudes, &c.

ASTROITES, or STAR-STONE, in natural hiftory, is fo called on account of its refemblance to a ftar. It is controverted, among naturalifts, whether they are parts of a petrified marine animal, or, as is more probable, a fpecies of corals buried in the earth. The corals forming thefe ftars are fometimes round, fometimes angular, and their columns are fometimes feparated, and fometimes the ftriæ run into one another.

ASTROLABE, the name for a ftereographic projection of the fphere, either upon the plane of the equator, the eye being fuppofed to be in the pole of the world; or upon the plane of the meridian, when the eye is fuppofed in the point of interfection of the equinoctial and horizon.

The aftrolabe is otherwife called a planifphere. See the article PLANISPHERE.

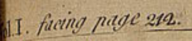
ASTROLABE is alfo an inftrument for taking the altitude of the fun or ftars at fea, being a large brafs ring, A C B D (plate XXIII. fig. 4.) the limb of which, or a convenient part thereof A C, is divided into degrees and minutes, with a moveable index F G, which turns upon the center, and turns two fights: at the zenith is a ring A, to hang it by in time of obfervation, when you need only turn the index to the fun, that the rays may pafs freely through both fights, and the edge of the index cuts the altitude upon the divided limb. This inftrument, though not much in ufe now, if well made, and of great weight, that it may hang the fteadier, is as good as moft inftruments that are ufed at fea for taking altitudes, efpecially between the tropics, when the fun comes near the zenith, and in calm weather.

ASTROLABE, among the antients, was the fame as our armillary fphere. See the article ARMILLARY.

ASTROLOGICAL, fomething belonging to aftrology.

ASTROLOGY, a conjectural fcience, which teaches to judge of the effects and influences of the ftars, and to foretel future events by the fituation and different afpects of the heavenly bodies. It may be divided into two branches, natural and judiciary, the former being the prediction of natural effects, as the changes of weather, winds, ftorms, hurricanes, thunder, floods, earthquakes, &c. and the latter that which pretends to foretel moral events, or fuch as have a dependance on the freedom of the will.

Natural aftrology belongs to phyfiology, or



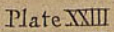


Fig. 1. ASPHODEL.



Fig. 2. ASPLENIUM.

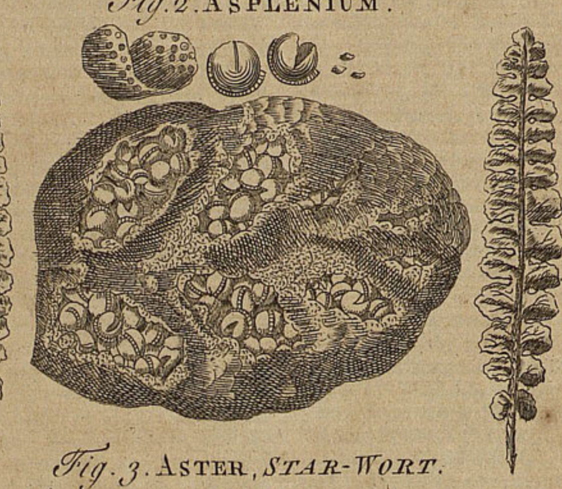


Fig. 3. ASTER, *STAR-WORT.*



Fig. 4. ASTROLABE.

Fig. 5. ASTRANTIA.



T. Jefferys sculp.

or natural philosophy, and is only to be deduced *a posteriori* from phænomena and observations. To this part Mr. Goad chiefly keeps, in his two books of astrology, in which he pretends that inundations, and an infinite number of phænomena of that kind, may be explained from the contemplation of the stars. For this astrology also, Mr. Boyle has a just apology in his history of the air. But as for judicial or judiciary astrology, with all the idle conceits about the horary reign of planets, the doctrine of horoscopes, the distribution of the houses, the calculation of nativities, fortunes, good or bad hours of business, and the like fatalities, they are mere levities, and may be plainly confuted by physical reasons, and are therefore justly rejected by all sound philosophers.

ASTRONOMICAL, in a general sense, something relating to astronomy: thus we say, astronomical calendar, characters, hours, *&c.* See CALENDAR, HOUR, *&c.*

ASTRONOMICALS, a name sometimes given to sexagesimal fractions. See the article SEXAGESIMAL.

ASTRONOMY, that science which treats of the heavenly bodies, explaining the motions, times, and causes of the motions, distances, magnitudes, gravities, light, *&c.* of the sun, moon, and stars; the nature and causes of the eclipses of the sun and moon, the conjunction and opposition of the planets, and any other of their mutual aspects, with the time when any of them did or will happen.

As the heavens may be considered either as they appear to the naked eye, or as they are discovered by the understanding; hence astronomy may be divided into two branches, spherical and theoretical. Spherical astronomy is the consideration of the universe as it offers itself to our sight; under which head come all the appearances of the heavens, such as we perceive them, without any enquiry into the reason, the theory, or the truth of these appearances. Theoretical astronomy is the consideration of the true structure of the universe, accounting for the various phænomena of the heavenly bodies; the several parts of which may be seen under the articles SYSTEM, SUN, STAR, PLANET, EARTH, MOON, SATELLITE, and COMET.

With respect to its different states, astronomy is also divided into antient and modern: antient astronomy is such as the art stood under Ptolemy and his followers, who supposed the earth quiescent in the center, and that all the heavenly bodies performed their revolutions round it. See the article PTOLEMAIC *System.*

The modern or new astronomy is that which has been cultivated since the time of Copernicus, who revived Pythagoras and Philolaus's opinion of the motion of the earth, and laid the foundation of the true solar system. See the article COPERNICAN *System.*

Among the most celebrated astronomical writers we may reckon Ptolemy, who has preserved the observations of the antients, Albategnius, who has given the observations of the Saracens, Sacro Bosco, Copernicus, Tycho Brahe, Clavius, Kepler, Galilæo, Hevelius, Dr. Hook, Sir Jonas Moor, Mr. Huygens, Tacquet, Flamstead, De la Hire, Gregory, Whiston, Dr. Halley, Keill, the two Cassinis, father and son, and the immortal Sir Isaac Newton, to whom we are indebted for astonishing discoveries in this science.

In painting, astronomy is represented like a woman, with a silver crescent on her forehead, an azure mantle and a watchet scarf, besprinkled with golden stars: or it may be represented by a lady in a starry habit, looking towards heaven, and holding an astrolabe in her right hand, and a table of astronomical figures in her left.

ASTROP-WELLS, in Northamptonshire, were recommended formerly by the physicians Willis and Clever, for the cure of the scurvy, asthma, *&c.*

ASTROSCOPE, an instrument composed of two cones, having the constellations delineated on their surfaces, whereby the stars may be easily known.

ASTRUM, a constellation. See the article CONSTELLATION.

ASTURIA, a maritime province of Spain, lying along the bay of Biscay, with Gallicia on the west, and Biscay on the east. It gives the title of prince to the eldest son of Spain.

ASYLUM, a sanctuary, or place of refuge, where criminals shelter themselves from the hands of justice. It is pretended that the first asylum was built at Athens by the Heraclidæ, as a refuge for those who fled from the oppression of their fathers. Be that as it will, it is certain that the assyla of altars and temples were very antient, and likewise those of tombs, statues, and other monuments of considerable personages: thus the temple of Diana at Ephesus was a refuge for debtors, the tomb of Theseus, for slaves; and Romulus, when he built Rome, left a certain space as an asylum to all persons,

whether freemen or ſlaves, with a political view of drawing together great numbers from all quarters to people his new city. The Jews had their aſyla, the moſt remarkable of which were the ſix cities of refuge, the temple, and the altar of burnt offerings. This privilege began likewiſe to be enjoyed by the chriſtian churches in the reign of Conſtantine, at which time the altar only and the inward fabric of the church were a place of refuge; but afterwards the whole precincts, nay even the graves of the dead, croſſes, ſchools, *&c.* were comprehended in that privilege. As aſyla were not intended originally to patronize wickedneſs, but as a refuge for the innocent, the injured and the oppreſſed, ſeveral crimes were excepted by law, for which the church could grant no protection; as 1. Protection was denied to public debtors. 2. To Jews who pretended to turn chriſtians, in order to avoid ſuffering legal puniſhment for their crimes. 3. To heretics and apoſtates. 4. To ſlaves who fled from their maſters. And, 5. To robbers, murderers, conſpirators, raviſhers, *&c.*

Modern ſanctuaries are a great abuſe of thoſe antient aſyla of the chriſtian church, in giving protection to almoſt all ſorts of criminals, and ſo enervating the force of civil laws. The canon law of Gratian and the decretals of the popes, grant protection to almoſt all criminals; and Polydore Virgil cenſures the Engliſh, who did not even exempt traytors and rebels from flying to aſyla: but at preſent we have no ſuch practice, nor is there any privigleed place in England allowed by law to ſcreen offenders from juſtice.

ASYMMETRY, in a general ſenſe, the want of proportion between the parts of any thing, being the contrary of ſymmetry. See the article SYMMETRY.

In mathematics it is uſed for what is more commonly called incommenſurability. See INCOMMENSURABLE.

ASYMPTOTE, in geometry, a line which continually approaches nearer to another, but, though continued infinitely, will never meet with it: of theſe there are many kinds. In ſtrictneſs, however,

The term aſymptotes is appropriated to right lines, which approach nearer and nearer to ſome curve, of which they are ſaid to be the aſymptotes; but if they and their curve are indefinitely continued they will never meet.

The nature of an aſymptote will be eaſily conceived, from conſidering the aſymptote of the conchoid: for if C D E (plate XXIV. fig. 1. n° 1.) be a part of the curve of a conchoid, and A its pole, and the right line M N be ſo drawn that the parts B C, G D, F E of right lines drawn from the pole A be equal to each other, then the line M N will be the aſymptote of the curve, becauſe the perpendicular Dp is ſhorter than B C, and E P ſhorter than Dp, and ſo on; and the points E and p can never coincide.

Aſymptotes of the hyperbola are thus deſcribed. If C P (ibid. n° 2.) be a diameter of the hyberbola R A S, and C D be the ſemiconjugate of it; and if the line F E be a tangent in the point A, and $AE = FA = CD$; then, if the lines C G, C G, be drawn from the center C, through the points E and F, theſe lines C G, C G, will be the aſymptotes of the hyperbola R A S. And if any right line L M be drawn parallel to the tangent F E, ſo as to cut the curve and the aſymptotes, then will the parts Ll, Mm, be equal, and $Ll \times Ml = \overline{AE}^2$; and moreover, any annulus or ring made by Mm or Ll, when the whole figure revolves about the diameter A P, will always be equal to a circle, whoſe diameter is A E.

Again, if one of the aſymptotes be continued out to T (ibid. n° 3.) and the line T S R be drawn parallel to the diameter C Q, then $TR \times SR = \overline{AC}^2$, and if the line P M be any where drawn parallel to the aſymptote C S, then $CP \times PM$ will be always of the ſame magnitude, that is, always a ſtanding quantity.

The inveſtigation of right-lined aſymptotes may be found for curves of any order, without having recourſe to ſerieſes, by means of the general equation of that order, thus: Let the equation be $Ay^2 + Bxy + Cx^2 + Dy + Ex + F = 0$. Suppoſe $y = ax + b + cx^{-1}$, *&c.* then will $Aa^2 + Ba + C = 0$; and by extracting the roots of this laſt equation, we ſhall have a; and b will be $= -\frac{Da + E}{2aA + B}$, and $c = \frac{Ab^2 + Db + F}{2Aa + B}$; and if the equation be $Ay^3 + Bxy^2 + Cx^2y + Dx^3 + Ey^2 + Fxy + Gx^2 + Hy + Kx + L = 0$, the roots of this equation $Aa^3 + Ba^2 + Ca + D = 0$, will give a; and b will be $= \frac{Aa^2 + Ba + C}{3Ea^2 + 2Fa + C}$ and

$$c = \frac{-3Ab^2 + Bb^2 + Eab + Fb + Ha + K}{3Aa^2 + 2Ba + C}$$

where

where a is the inclination of the asymptote to the abscifs, b is the distance between the beginning of the abscifs and the point in which the asymptote cuts the same, and c shews on which side of the asymptotes the legs of the curve lie.

Concerning asymptotes and asymptotical curves, it may be remarked, 1. That although such curves as have asymptotes, are of the number of those which do not include a space; yet it is not true, on the other hand, that wherever we have a curve of that nature, we have an asymptote also. 2. Of these curves that have an asymptote, some have only one, as the conchoid, cissoid, and logarithmic curve; and others two, as the hyperbola. See HYPERBOLA, CONCHOID, &c. 3. As a right line and a curve may be asymptotical to one another, so also may curves and curves: such are two parabolas, whose axes are in the same right line. See the article PARABOLA. 4. No right line can ever be an asymptote to a curve that is every where concave to that right line. 5. But a right line may be an asymptote to a mixed curve, that is partly concave, and partly convex, towards the same line. And, 6. All curves that have one and the same common asymptote, are also asymptotical to one another.

ASYMPTOTIC, something relating to asymptotes. See the preceding article.

ASYMPTOTIC SPACE, the same with hyperbolic space. See HYPERBOLIC.

ASYNDETON, in grammar, a figure which omits the conjunctions in a sentence: as in that verse of Virgil,

Ferte citi flammas, date vela, impellite remos.

Asyndeton stands opposed to polysyndeton. See the article POLYSYNDETON.

ATARAXY, a term used by the stoics and sceptics, to denote that calmness of mind which secures us from all emotions arising from vanity or self-conceit. In this consisted the *summum bonum*, or sovereign good.

ATAXY, in a general sense, the want of order: with physicians it signifies the irregularity of crises and paroxysms of fevers.

ATCHIEVEMENT, in heraldry, denotes the arms of a person, or family, together with all the exterior ornaments of the shield, as helmet, mantle, crest, scrolls, and motto, together with such quarterings as may have been acquired by alliances, all marshalled in order.

ATELLANÆ, in roman antiquity, comic and satyric pieces presented on the theatre; but as in the latter times they grew excessively lewd, they were suppressed by order of the senate.

ATHAMADULET, the prime minister of the persian empire, as the grand visier is of the turkish empire.

The athamadulet is great chancellor of the kingdom, president of the council, superintendant of the finances, and is charged with all foreign affairs.

ATHAMANTA, in botany, a genus of the *pentandria digynia* class of plants, the general corolla whereof is uniform; the partial one consists of five inflexo-cordated unequal petals: there is no pericarpium; the fruit is ovato-oblong, striated, and divisible into two parts: the seeds are two, oval, striated, and convex on the one side, and plane on the other.

The root of this plant is the only part used in medicine. It is hot, dry, carminative, expelling wind, and of use in the colic and gripes. It is also alexipharmic, and good against pestilential distempers, being an ingredient in the theriaca and mithridate. It is good against the stone, and for stoppages of urine.

ATHANASIAN CREED, that supposed to be composed by Athanasius. See CREED.

ATHANATI, in persian antiquity, a body of cavalry, consisting of ten thousand men, always complete. They were called athanati because when one of them happened to die, another was immediately appointed to succeed him.

ATHANOR, in chemistry, a kind of fixed and large digesting furnace, made with a tower, so contrived as to keep a constant moderate heat for a considerable time, which may be increased or diminished at pleasure, by shutting the registers. It is also called *piger henricus*, slow harry, the philosophical furnace, or furnace of arcana, sometimes *uterus chemicus*, or *spagyricus*, and commonly the towered furnace. See FURNACE.

ATHEIST, ἄθεος, a person who denies the deity, who does not believe the existence of a God, nor a providence, and who has no religion at all, either true or false.

An atheist, in general, is one who owns no being superior to nature; in which sense Spinoza may be said to be an atheist, as he allows no other god besides nature, or the universe, as it consists of men and other sensible beings. See GOD.

Plato distinguishes three sorts of atheists; first,

first, such as absolutely deny the existence of any gods; secondly, those who allow the existence of gods, but deny their taking any concern in human affairs, and so disbelieve a providence; thirdly, such as believe there are gods, but think that they are easily appeased, and remit the greatest crimes for a little prayer, or the like.

Some distinguish speculative atheists, or those who are so from principle and theory, from practical atheists, whose wicked lives incline them to believe, or rather to wish, that there were no God.

ATHELING, ADELING, EDLING, ETHLING, or ETHELING, among our saxon anceftors, was a title of honour properly belonging to the heir apparent, or presumptive, to the crown. This honourable appellation was first conferred by king Edward the confessor, on Edgar, to whom he was great-uncle, when, being without any issue of his own, he intended to make him his heir.

ATHENÆA, αθηναια, in grecian antiquity, the same with panathenæa. See the article PANATHENÆA.

ATHENÆUM, in antiquity, a public place wherein the professors of the liberal arts held their assemblies, the rhetoricians declaimed, and the poets rehearsed their performances.

These places, of which there were a great number at Athens, were built in the manner of amphitheatres, encompassed with seats called *cunei*. The three most celebrated athenæa were those at Athens, at Rome, and at Lyons, the second of which was built by the emperor Adrian.

ATHENREE, a town of Ireland, in the county of Galway, and province of Connaught, situated about ten miles eastward of the city of Galway, in 8° 50′ west longitude, and 53° 14′ north lat.

ATHENS, an antient city of Greece, and capital of the province of Livádia, called by the Turks Setines.

It is situated in a large plain near the river Ilissus, about forty miles east of the isthmus of Corinth, in 24° 15′ east long. and 38° north latitude, and is still four miles in circumference.

ATHEROMA, in medicine, a tumour without pain or discolouring of the skin, containing in a membranaceous bag, matter like pap, intermixed with hard and stony corpuscles, &c.

An atheroma is oblong, hard, not easily impressed by the fingers, nor after the impression easy to restore itself. It is near akin to the meliceres and steatomas, and, like them, is cured by section. See the articles CYST and *Encysted* TUMOURS.

ATHERTON, a town of Warwickshire, situated about ten miles north of Coventry, in 1° 30′ west longitude, and 52° 40′ north latitude.

ATHLETÆ, in antiquity, men of remarkable strength and agility, disciplined to perform in the public games. This was a general term, under which were comprehended wrestlers, boxers, runners, leapers, throwers of the disk, and those who practised in other exercises exhibited in the olympic, pythian, and other solemn sports, wherein there were prizes allotted for the conquerors. From the five usual exercises, the athletæ were also denominated πενταθλοι, and by the Latins *quinquertiones*.

ATHLETIC, something belonging to the athletæ: thus, we say, athletic crown, athletic diet, athletic habit, &c. See the article CROWN, &c.

ATHLONE, a strong town in the county of Westmeath, in the province of Connaught in Ireland, situated on the river Shannon, about sixty miles west of Dublin, in 8° 5′ west longitude, and 53° 20′ north latitude.

ATHOL, a district of Perthshire in Scotland, from whence the antient and noble family of Murray takes the title of duke.

ATHOS, a mountain of Macedon, in Greece, called by the natives Agios Oros, and by the Italians Monte Santo.

ATHY, a town of Ireland, in the county of Kildare and province of Leinster, situated on the river Barrow, about ten miles south of Kildare, in 7° 5′ west longitude, and 53° north latitude.

ATINGA-GUACU-MUCU, in ornithology, a beautiful brasilian bird, of the *sturnus* or starling-kind. See plate XXIV. fig. 2, and the article STARLING.

ATLANTIC OCEAN, that bounded by Europe and Africa on the east, and by America on the west.

ATLANTIDES, in astronomy, the same with pleiades.

ATLAS, the name of a ridge of mountains, running from east to west through the north of Africa, from whence the Atlantic ocean took its name.

ATLAS, in architecture, the same with telamon. See the article TELAMON.

ATLAS, in anatomy, the name by which some call the first vertebra of the neck; so called in allusion to mount Atlas.

ATLAS, in matters of literature, denotes a book of universal geography, containing

ing maps of all the known parts of the world.

ATMOSPHERE, in phyfiology, the vaft collection of air with which the earth is furrounded for a confiderable height. See the article AIR.

The reafon why this body of air is fo tranfparent as to be invifible, is owing to the great porofity thereof; the pores and interftices of air being fo very great and large, it admits the light not only in right lines, but in fuch great and plentiful rays, that the brightnefs and univerfal luftre thereof not only renders the air diaphanous, but entirely hinders the opacity of the very fmall particles of air from being at all feen; and therefore the whole body of air muft confequently be invifible. See the article OPACITY.

The atmofphere is not only admirably fitted for the refpiration and nourifhment of animals, for the growth of vegetables, the production and propagation of founds, &c. but helps alfo to make our habitable earth that beautiful fcene of variety which it now is. If it were not for the atmofphere, the fun and ftars would give us no light, but juft when we turn our eyes upon them: the brightnefs of the fun would indeed be greater than it is; but, if we turned our eyes from him towards any other part of the heaven, it would appear as dark and full of ftars as in a bright ftar-light in winter. As for the various bodies, which are upon the earth, they would all, without the atmofphere, appear to us as dark as at midnight, except only thofe parts of them which happened to be in fuch a pofition, that the rays of the fun, falling upon them, were reflected to our eyes. It is eafy to imagine how much of the beauty of the vifible creation would be loft in thefe circumftances, befides the infupportable prejudice to the eyes of all creatures, by paffing fo fuddenly from pitchy darknefs to exceffive light. The numberlefs fmall particles of various kinds, which float in the air, receive the light from the fun, and like fo many fmall fpecula or looking-glaffes, reflect and fcatter it through the air, and this occafions that light which we fee in the day-time, by which our eyes are affected fo ftrongly, as to render the fainter light of the ftars infenfible. By this means the ftars are illuminated all round us by the fun, not only whilft he is above our horizon, but alfo for fome time before his rifing, and after his fetting, fo long as any of his rays can either directly, or by refraction, reach any part of the atmofphere within our vifible horizon; for the air, as well as all other mediums which tranfmit light, refracts or bends the rays of it, if they come into it from a different medium. This property of the air is exceedingly beneficial to the inhabitants of the earth, as it lengthens the days by the addition of the twilight; but it gives aftronomers fome trouble, as it changes a little the places of all the heavenly bodies, and makes them appear higher than they really are, and muft therefore be taken into the account, if we would be exact. The antients were not well acquainted with the refraction of the air, which renders many of their obfervations of the heavenly bodies, efpecially near the horizon, liable to uncertainty. See the articles LIGHT, REFLECTION, REFRACTION, TWILIGHT, STAR, &c.

Height of the ATMOSPHERE. If the air were of an equal denfity throughout, the height of the atmofphere might be determined: for it appears from experiments, that a column of air 72 feet high is equal in weight to one inch of water of the fame bafe; fo that the denfity of air is to that of water as 1 to 864. It has alfo been found by experiment, that the weight of a column of air, reaching to the height of the atmofphere, will be equal to the weight of a column of water of the fame bafe, and 32 feet, or 384 inches high. Hence 864×384 gives 331776 inches, or fomewhat more than five miles for the height of the atmofphere, were the denfity of the air every where the fame as at the earth. But fince its denfity decreafes with the preffure, it will be more rarefied and expanded the higher we go; by which means the height of the atmofphere becomes indefinite, and terminates in pure æther. See ÆTHER. However, though it is impoffible to affign the real height of the atmofphere, it neverthelefs appears certain from experiments, that 45 or 50 miles is the utmoft height where the denfity is fufficient to refract a ray of light; and, therefore, that may be accounted the altitude of the atmofphere, to the leaft fenfible degree of denfity.

Weight of the ATMOSPHERE. It has been already obferved, under the article AIR, that the atmofphere is a perfect chaos of different effluvia, confifting of almoft all kinds of corpufcles, confufedly jumbled together, and conftituting one mafs:

water, fire, volatile falts, oils, &c. are there blended together, in different proportions. Hence it is no wonder that the gravity of the atmofphere fhould vary, according as the more light or more ponderous of thefe conftituent parts prevail in it: and, in fact, it is found fometimes to fuftain a pillar of mercury 31 inches high, in the barometer; when, at others, it will raife the mercury, but to the height of 28 inches. Taking therefore $29\frac{1}{2}$ inches for the mean altitude of the mercury, a column of it, whofe bafe is one fquare inch, weighs about 15 pounds, which is equal to the preffure of the air upon every fquare inch. Hence, fuppofing the furface of a man's body to be $14\frac{1}{2}$ fquare feet, the preffure of the air fuftained by him will be 31320 pounds, or nearly 14 tons, at a medium: whereas, when the air is lighteft, it will be only $13\frac{1}{5}$ tons; and when heavieft, $14\frac{8}{10}$ tons, the difference of which is $1\frac{1}{10}$ ton, = 2464 pounds, wherewith we are compreffed more at one time than at another.

This great difference of preffure muft greatly affect us, in regard to the animal functions, and confequently with refpect to health. If a perfon, for inftance, be afthmatical, he will find his diforder increafe with the levity of the air. Again, the reafon why we think the air lighteft in fine weather, when it is really heavieft, is becaufe the greater preffure conftringes the fibres and nerves, and thereby makes them more vigorous than ordinary: whereas, on the contrary, when this preffure is leffened by near 2500 lb the fibres are relaxed, and a gloomy inactivity and heavinefs enfues.

Since the air, fays fir Ifaac Newton, is compreffed by the weight of the incumbent atmofphere, and the denfity of the air is proportionable to the force compreffing it, it follows, by computation, that at the height of about 7 englifh miles from the earth, the air is four times rarer than at the furface; and at the height of 14 miles, it is 16 times rarer than at the furface; and at the height of 21, 28, or 35 miles, it is refpectively 64, 256, or 1024 times rarer; and at the height of 70, 140, and 210 miles, it is about 1000000, 1000000000000, or 1000000000000000000 times rarer; and fo on in a geometrical proportion of rarity, compared with the arithmetical proportion of its height.

The weight of the atmofphere, which preffes upon every body, being equal to fo many fifteen pounds, as the furface of the body contains fquare inches, the reafon may be afked, why men, beafts, houfes, &c. are not crufhed to pieces by fuch a prodigious weight of air? This is owing to the equilibrium of the internal air, or the air included in all bodies, which though it be fmall, can, by its reaction, counterpoife and refift the preffure of the external air, how great foever it be, as is proved by feveral experiments upon the air pump, already mentioned under the article AIR. See alfo the articles ACTION and REACTION.

If it be required to find the weight of the whole atmofphere upon the earth's furface, we may proceed thus: fuppofe the earth's diameter in round numbers 8000 miles, the area of a great circle will be 8000 × 8000 × 0,7854 = 50266400 fquare miles, which multiplied by 4 gives 201065600 fquare miles for the furface of the earth; but, becaufe we took the diameter a little too large, we may take 200,000,000 for the number of fquare miles in the earth's furface; in one fquare mile are (5280 × 5280 =) 27878400 fquare feet, therefore, on the earth's furface we have 5575680000000000 fquare feet, which multiplied by 2660 (the preffure on each fquare foot) gives 14831308800000000000 pounds troy for the whole preffure.

For meafuring the different degrees of heat, weight, and moifture of the atmofphere, inftruments have been invented. See the articles THERMOMETER, BAROMETER, and HYGROMETER.

ATMOSPHERE *of the moon*. See MOON.

ATMOSPHERE *of the fun*. See SUN.

ATOLLENS OCULI, in anatomy, the fame with *elevator*. See ELEVATOR.

ATOM, ἄτομος, in philofophy, a particle of matter, fo minute as to admit of no divifion.

Atoms are the *minima naturæ*, and are conceived as the firft principles or component parts of all phyfical magnitude. However, atoms are not accounted indivifible on account of their want of extenfion (for they have the three dimenfions of phyfical magnitude) but they are conceived indivifible on account of their folidity, hardnefs, and impenetrability, which leave no vacancy for the admiffion of any foreign force, to feparate and difunite them, and confequently exclude a divifion. Thus it is neceffary they fhould be indiffolvible, in order to their being incorruptible, which quality they muft

muſt be poſſeſſed of, as being the pre-exiſtent matter of which bodies were made. Sir Iſaac Newton adds, that it is required they ſhould be immutable, in order to the world's continuing in the ſame ſtate, and bodies being of the ſame nature now as formerly; from which conſiderations the antients were led to aſſert the eternity of atoms, as whatever is immutable, muſt be eternal.

The antients went farther in the doctrine of atoms: they aſcribed gravity to them; and, in conſequence, maintained, that they were endued with motion: and farther obſerving, that their falling perpendicularly could not join or unite together, they ſuperadded a fortuitous motion ſideways, and provided them with certain hooked parts, to enable them the better to hang together, whence, from a caſual jumble of theſe hooked atoms, they ſuppoſed the univerſe to have been formed: Hence,

ATOMICAL philoſophy, or the doctrine of atoms, a ſyſtem which, from the hypotheſis, that atoms are endued with gravity and motion, accounted for the origin and formation of all things. This philoſophy was firſt broached by Moſchus, ſometime before the trojan war, but was much cultivated and improved by Epicurus, whence it is denominated the epicurean philoſophy. See the article Epicurean Philosophy.

ATONEMENT, the ſame with expiation. See the article Expiation.

ATONICS, in grammar, words not accented. See the article Accent.

ATONY, ἀτονια, in medicine, a defect of tone or tenſion, or a laxity or debility of the ſolids of the body, occaſioning faintings, weakneſſes, *&c.* Some phyſicians aſcribe the cauſes of all diſtempers to relaxation, ſtricture, or a mixture of theſe.

ATRA bilis, in antient medicine, the black bile, one of the humours of the antient phyſicians; which the moderns call melancholy. See the articles Melancholy and Humour.

ATRACTYLIS, in botany, a genus of the *ſyngeneſia-polygamia* claſs of plants, with radiated flowers, and compreſſed ſeeds, coronated with a plumoſe down, and ſtanding on a plane villoſe receptacle.

ATRAGENE, in botany, a genus of the *polyandria-polygynia* claſs of plants, the flower of which conſiſts of twelve petals, and its ſeeds are caudated.

ATRAPHAXIS, in botany, a genus of the *hexandria-digynia* claſs of plants, the flower of which conſiſts of two roundiſh, ſinuated and permanent petals; and its cup encloſes a ſingle, roundiſh, and compreſſed ſeed. Dilennius reckons it only a ſpecies of *atriplex*.

ATRI, a town of the farther Abruzzo, in the kingdom of Naples, ſituated in 15° 20′ eaſt longitude, and 42° 40′ north latitude.

ATRIPLEX, orach, in botany, a genus of the *polygamia-monoecia* claſs of plants, without any flower petals: the cup of the female flower is compoſed of two leaves, incloſing a ſingle and compreſſed ſeed: whereas that of the hermaphrodite flower is compoſed of five leaves, and encloſes a ſingle, roundiſh, and depreſſed ſeed.

Atriplex is eſteemed cooling and emollient; and its ſeeds, given internally, diuretic, and good in diſorders of the uterus.

ATRIUM, or Porch. See Porch.

ATROPA, in botany, a genus of the *pentandria-monogynia* claſs of plants, the flower of which conſiſts of a ſingle funnel-faſhioned petal, the fruit is a globoſe berry, containing two cells, wherein the ſeeds incloſed are numerous and kidney-ſhaped.

ATROPHY, ἀτροφια, in medicine, a diſeaſe, wherein the body, or ſome of its parts, do not receive the neceſſary nutriment, but waſte and decay inceſſantly. This is a diſorder proceeding from the whole habit of the body, and not from any diſtemper of the entrails: it is attended with no remarkable fever, and is natural in old age, which atrophy is called *atrophia ſenilis*.

Atrophy is either nervous, or the effect of immoderate evacuations. A nervous atrophy is that which owes its beginning to a bad and morbid ſtate of the ſpirits, or to the weakneſs or deſtruction of the tone of the nerves; whence a weakneſs and an univerſal conſumption of the body proceeds, for want of a due aſſimilation of the nutricious juice: ſo that from the original of the diſeaſe, there is a defect of appetite, and a bad digeſtion in the ſtomach, ariſing from an imperfect elaboration and volatilization of the chyle.

An atrophy from inanition proceeds from a preternatural defect or ſubtraction of the nutricious juice, which varies according to the different outlets of the body, whether by nature or by art. See the article Consumption.

ATTACHING, or ATTACHMENT, in law, the taking or apprehending of a perfon, by virtue of a writ or precept.

It is diftinguifhed from an arreft in this refpect, that whereas an arreft lies only on the body of a man, an attachment is oftentimes on the goods only, and fometimes on the body and goods; there is this farther difference, than an arreft proceeds out of an inferior court by precept only, and an attachment out of a higher court, either by precept or writ.

An attachment by writ differs from diftrefs, infomuch that an attachment does not extend to lands, as a diftrefs does; and a diftrefs does not touch the body, as an attachment does.

In the common acceptation, an attachment is the apprehenfion of a man's body, to bring him to anfwer the action of the plaintiff.

ATTACHMENT *out of the chancery* is obtained upon an affidavit made, that the defendant was ferved with a fubpœna, and made no appearance; or it iffueth upon not performing fome order or decree. Upon the return of this attachment by the fheriff, *quod non eft inventus in balliva fua*, another attachment, with a proclamation, iffues; and if he appears not thereupon, a commiffion of rebellion.

ATTACHMENT *out of the foreft*, is one of the three courts held in the foreft. The loweft court is called the court of attachment, or wood-mote court; the mean, fwan-mote; and the higheft, the juftice in eyre's feat.

This attachment is by three means, by goods and chattles, by body, pledges, and mainprize, or the body only. This court is held every forty days throughout the year, whence it is called forty-days court.

ATTACHMENT *of privilege*, is by virtue of a man's privilege to call another to that court whereto he himfelf belongs, and in refpect whereof he is privileged to anfwer fome action.

Foreign ATTACHMENT, is an attachment of money or goods, found within a liberty or city, to fatisfy fome creditor within fuch liberty or city.

By the cuftom of London, and feveral other places, a man can attach money or goods in the hands of a ftranger, to fatisfy himfelf.

ATTACHIAMENTA *bonorum*, in our old ftatute books, imports a diftrefs taken upon the goods or chattles of a perfon fued for a perfonal eftate, or debt, by the legal attachiators, or bailiffs, as a fecurity to anfwer the action.

ATTACHIAMENTA *de fpinis & bofco*, denotes an antient privilege granted to the officers of forefts, to take to their own ufe thorns, brufh, and windfalls within their own precincts or liberties.

ATTACK, a violent attempt upon any perfon or thing, an affault, or the act of beginning a combat, or difpute.

ATTACK, in the military art, is an effort made to force a poft, break a body of troops, &c. See the article ASSAULT.

ATTACK *of a fiege*, is a furious affault made by the befiegers with trenches, covers, mines, &c. in order to make themfelves mafters of a fortrefs, by ftorming one of its fides. If there are two or three attacks made at the fame time, there fhould be a communication betwixt them.

Falfe ATTACKS are never carried on with that vigor and brifknefs that the other is; the defign of them being to favour the true attack, by amufing the enemy, obliging the garrifon to a greater duty in dividing their forces, that the true attack may be more fuccefsful.

To ATTACK *in flank*, is to attack both fides of the baftion.

ATTAINDER, in law, is when a man has committed felony or treafon, and fentence is paffed upon him for the fame.

The children of a perfon attainted of treafon, are, thereby, rendered incapable of being heirs to him, or to any other anceftor; and if he were noble before, his pofterity are degraded, and made bafe: nor can this corruption of blood be falved, but by an act of parliament, unlefs the fentence be reverfed by a writ of error.

Attainder is twofold, either by appearance, or by procefs.

ATTAINDER by appearance, is either by battle, by confeffion, or by verdict. By battle, is when the party appealed by another, choofing rather to try the truth by combat than by jury, is vanquifhed. Attainder by confeffion, is either by pleading guilty at the bar, and not putting himfelf upon trial by the jury, or before the coroner in fanctuary, where, in antient times, he was obliged to renounce the realm. Attainder by verdict, is when the prifoner at the bar pleads not guilty to the indictment, and is pronounced guilty by the jury.

ATTAINDER by procefs, otherwife called attainder by default, is where a party flies,

fies, or does not appear, after being three times publicly called in the county court, and at last upon his default, is pronounced guilty.

Bill of ATTAINDER, a bill brought into parliament, for attainting, condemning, and executing a person for high treason.

ATTAINT, in law, *attincta*, a writ which lies against a jury that have given a false verdict in any court of record, in a real or personal action, where the debt or damages amount to above forty shillings.

If the verdict be found false, the judgment by common law was, that the jurors meadows should be ploughed up, their houses broken down, their woods grubbed up, all their lands and tenements forfeited, &c. but by statute the severity of the common law is mitigated, where a petty jury is attainted, and there is a pecuniary penalty appointed.

But if the verdict be affirmed, such plaintiff shall be imprisoned and fined.

ATTAINT, among farriers, a knock, or hurt in a horse's leg, proceeding either from a blow with another horse's foot, or from an over-reach in frosty weather, when a horse being rough shod, or having shoes with long calkers, strikes his hinder feet against his fore-leg.

ATTAINTED, ATTAINTUS, or ATTINCTUS, in law, is applied to a person's being found guilty of any crime or offence, especially treason or felony, by due course of law.

ATTENDANT, or ATTENDENT, in the general acceptation. See the articles ASSISTANT, RETINUE, and SATELLITES.

ATTENDANT, ATTENDENS, in law, one that owes duty or service to another, or in some manner depends upon him, as a widow endowed of lands by a guardian, shall be attendant upon him.

ATTENTION, *attentio*, the applying the ear or the mind assiduously to any thing said or done, in order to acquire the knowledge thereof.

Attention of the mind is more properly an act of the will than of the understanding, wherewith the will summons the understanding from the consideration of other objects, to the thing in hand.

Attention, in regard of hearing, is the stretching the membrana tympani, to make it more susceptible of sounds, or adjusting the tension of that membrane to the proper key or tone of the sound.

ATTENUANTS, in pharmacy, medicines which resolve the viscosity of the humours in the human body; thereby promoting their circulation as well as the discharge of all noxious and excrementitious matter.

When these medicines act upon fluids lodged in the capillary vessels, they get the appellation of aperitives, or aperients, as they do that of expectorants, when they promote a discharge of the viscid humours in the lungs. See the articles APERIENTS and EXPECTORANTS.

Of the vegetable kingdom, the whole tribe of acrid and bitter plants, are attenuants; of the animal kingdom, the volatile salts, as sal armoniac, and saltpetre; and of the mineral kingdom, the mineral acid salts, as vitriol, sea-salt, glauber's salts, &c.

Attenuants are recommended in the inflammatory diseases of winter, along with other medicines. See INFLAMMATORY.

ATTENUATION, the act of attenuating, or making a fluid more thin. See the article ATTENUANTS.

ATTESTATION, the act of affirming, or witnessing, the truth of something, more especially in writing.

ATTIC, *atticus*, any thing relating to Attica, or to the city of Athens: thus, attic salt, *sales attici*, in philology, is a delicate poignant sort of wit and humour peculiar to the athenian writers; attic witness, *atticus testis*, a witness incapable of corruption, &c.

ATTIC, in architecture, a sort of building wherein the roof or covering is not to be seen; thus named, because the buildings at Athens were generally of this form.

ATTIC ORDER, a small order raised upon a large one, by way of crowning, or to finish the building; or it is, according to some, a kind of rich pedestal, sometimes used for the conveniency of having a wardrobe, or the like; and instead of columns, has only pilasters of a particular form, and sometimes no pilasters at all.

The name attic is also given to a whole story into which this order enters; this little order being always found over another greater one.

ATTIC *of a roof*, a kind of parapet to a terras, platform, or the like.

ATTIC *continued*, that which encompasses the whole circumference of a building, without any interruption, following all the jets, the returns of the pavilions, &c.

ATTIC *interposed*, one situated between two tall

tall ftones, fometimes adorned with columns or pilafters.

Attic *bafe*, a peculiar kind of bafe ufed by the antient architects in the ionic order, and by Palladio, and fome others, in the doric. This is the moft beautiful of all bafes. See the article Base.

ATTIRE, in botany, a name given by fome to the generative parts of plants; ufed by others, to denote the third part or divifion of the flower of a plant, the other two being the empalement and the foliation, or the cup and the flower petals.

Attire, in hunting, fignifies the head or horns of a deer. See the article Head. The attire of a ftag, if perfect, confifts of bur, pearls, beam, gutters, antler, fur-antler, royal, fur-royal, and croches; of a buck, of the bur, beam, brow-antler, advancer, palm, and fpellers.

ATTITUDE, in painting and fculpture, the gefture of a figure, or ftatue; or it is fuch a difpofition of their parts, as ferves to exprefs the action and fentiments of the perfon reprefented.

ATTLEBURY, a market town of Norfolk, about eighty miles north-eaft of London, fituated in 40′ eaft longitude, and 52° 30′ north latitude.

ATTOCK, a city on the eaftern frontiers of Perfia, capital of a province of the fame name, and fituated on the river Attock, in 72° eaft longitude, and 33° north latitude.

ATTOLENS, in anatomy, an appellation given to feveral mufcles, otherwife called levators and elevators.

ATTORNATO Faciendo, &c. a writ commanding a fheriff, or fteward, to admit an attorney to appear for a perfon who owes fuit to the county court, court baron, &c.

ATTORNEY, in a general fenfe, a perfon appointed by another to do fomething in his ftead.

Attorney, at law, one who is retained to profecute or defend a law-fuit. Attornies being properly thofe who fue out writs or procefs, or commence, carry on, and defend actions, in any of the courts of common law, are diftinguifhed from folicitors, as the latter do the like bufinefs in the courts of equity; and none are admitted, either as attorney or folicitor, unlefs they have ferved a clerkfhip of five years, been enrolled, and taken the oath in that cafe provided; and the judges of their refpective courts are required to examine their feveral capacities.

By a late order of all the judges, all attornies are to be admitted of fome inns of court, or chancery, (except houfe-keepers in London and Weftminfter, &c.) and no attorney fhall put himfelf out of that fociety, into which he is admitted, till he is admitted to fome other fociety, and deliver a certificate thereof; and all attornies are to be in common at the times ordered by the fociety to which they belong, otherwife fhall be put out of the roll of attornies.

Attornies may be punifhed for ill practices; and if an attorney, or his clerks, of which he muft have but two at one time, do any thing againft the exprefs rules of the court, he or they may be committed.

Neither a plaintiff or defendant may change his attorney without rule of court, whilft the fuit is depending; and attornies are not generally obliged to deliver up the writings in their hands, till their fees are fatisfied: likewife, an action does not lie againft an attorney, for what he advifes in the way of his profeffion: yet, if an attorney plead any plea, or appear without warrant from his client, action of the cafe lies againft him.

Attornies have the privilege to fue and be fued only in the courts of Weftminfter, where they practife; and they fhall not be chofen into offices againft their will.

Attorney *of the dutchy of Lancafter* is the fecond officer in that court, and feems to be there, for his fkill in the law, placed as affeffor to the chancellor of the court.

Attorney-general, is a great officer under the king, created by letters patent, whofe office it is to exhibit informations, and profecute for the crown in criminal caufes; and to file the bills in the exchequer, for any thing concerning the king in inheritance or profits. To him come warrants for making of grants, pardons, &c.

Letter of Attorney. See Letter.

Warrant of Attorney. See Warrant.

ATTOURNMENT, or Attornment, in law, a transfer from one lord to another, of the homage and fervice a tenant makes; or that acknowledgment of duty to a new lord.

Thus, when one is tenant for life, and he in reverfion grants his right to another, it

it is neceſſary the tenant for life agree thereto, which is called attournment, and without which, nothing can paſs by the grant. If the grant be by fine in court of record, the tenant ſhall be compelled to attourn.

ATTRACTION, *attractio*, in natural philoſophy, an indefinite term, applicable to all actions whereby bodies tend towards one another, whether in virtue of their weight, magnetiſm, electricity, impulſe, or any other latent power.

It is not therefore the cauſe determining the bodies to approach, that is expreſſed by the word attraction; but the effect, or approach itſelf.

That there are ſuch tendencies in the material world, is beyond all doubt, being obvious to the moſt inattentive obſerver; and it is no leſs evident, that many of the phænomena of nature are the reſult hereof.

Philoſophers generally reckon four different ſorts of attraction, *viz.* that of coheſion, of electricity, of magnetiſm, and gravitation.

Attraction of coheſion, is peculiar to the component particles of bodies, by virtue of which, they are firmly connected and held together. The laws and properties of this attraction are the following. 1. It is very diſcernible and moſt powerful in corpuſcles, or the ſmalleſt particles of matter. 2. It is mutually exerted between thoſe particles; or, they mutually attract, and are attracted by each other. 3. The ſphere of attraction, or extent of this power, is greater in ſome particles of matter than in others, but very ſmall at the outermoſt: for, 4. This power is inſenſible in ſolid bodies in the leaſt ſenſible diſtance, acting as it were only in contact; and, therefore, 5. It muſt be nearly proportional to the quantity of contiguous ſurfaces; or the parts of the bodies cohere moſt ſtrongly, whoſe touching ſurfaces are largeſt. 6. This power muſt decreaſe, as the ſquares of the diſtances increaſe; becauſe it muſt be ſuppoſed to iſſue from each particle in right-lined directions. 7. Where the ſphere of attraction ends, there a repelling power begins; by which the particles, inſtead of attracting, repel and fly from each other. 8. By this power, the ſmall portions or drops of a fluid, conform themſelves to a ſpherical figure.

The firſt and ſecond of theſe properties, are evident from various experiments; as the ſudden union of two contiguous drops of mercury, water, &c. the ſtrong adheſion of two leaden balls, which touch by poliſhed ſurfaces; as alſo of glaſs-planes, and cryſtal buttons, the aſcent of water between glaſs-planes, and in capillary tubes; the riſing of water by the ſides of a glaſs veſſel, and into tubes of ſand, aſhes, ſugar, ſponge, and all porous ſubſtances.

The third property is proved by the ſticking or adhering of water to ſubſtances, which by mercury are left dry. The fourth and fifth properties are evinced by the hyperbolic curve, formed by the ſuperficies of a fluid aſcending between glaſs-planes touching each other on one ſide. The ſixth property is evident. The ſeventh appears from the aſcent of ſteam, or vapour, from humid or fluid bodies; and the eighth property is manifeſt by drops of water falling on duſt.

From this account of the attraction of coheſion, we have a rational ſolution of ſeveral very curious and ſurpriſing phænomena; as why the parts of bodies adhere and ſtick ſo firmly together; why ſome are hard, others ſoft; ſome fixed, others fluid; ſome elaſtic, others void of elaſticity: all which ariſe from the different figures of the particles, and the greater or leſs degree of attraction conſequent thereupon. On this principle, we account for the manner in which plants imbibe the nutritive juices, by the fibres of the roots; alſo for the riſe of the ſap in vegetables, and for the whole oeconomy of vegetation. Hence the rationale of the various ſecretions of fluids by the glands, and their wonderful circulation through the fine capillary veſſels. Hence alſo the reaſon of ſoldering and gilding metals; alſo of melting, or fuſion, by heat. Hence alſo the exhalation of vapours by the heat of the ſun or fire; the aggregation of aqueous particles in the air, forming the drops of rain. We hence ſee the reaſon of diſtillation, filtration, diſſolution, digeſtion, ſublimation, precipitation, cryſtalization, and the other operations of chemiſtry and pharmacy. Laſtly, it is by this power of attraction and repulſion, that we are to account for thoſe wonderful phænomena of ſubterranean accenſions and exploſions; of vulcano's and earthquakes; of hot ſprings, damps, and ſuffocating exhalations in mines, &c. Attraction and repulſion differ in no other reſpects than this, that the attractive virtue, in the firſt caſe, carries bodies towards the attracting body;

body; and, in the latter, it carries them from it. In each caſe, the particles are moved in the ſame manner among themſelves by the attracting, electric, or magnetic power. See the articles COHESION and REPULSION.

The ſecond ſpecies of attraction, is that of electrical bodies, as glaſs, amber, ſealing-wax, jet, *&c.* for the properties of which, ſee ELECTRICITY.

For the properties of the third kind of attraction, ſee the article MAGNET.

The fourth kind of attraction, *viz.* that of gravitation, though reckoned a diſtinct ſpecies from that of coheſion; yet, when well conſidered, may be found perhaps to differ from it no otherwiſe than as a whole from the parts: for the gravity of large bodies may be only the reſult or aggregate of the particular powers of the conſtituent particles, which ſingly act only in contact, and in ſmall diſtances; but with their joint forces, in vaſt quantities, produce a mighty power, whoſe efficacy extends to very great diſtances, proportional to the magnitudes of the bodies.

This attractive force of gravity is, to ſenſe, the ſame for any diſtance near the ſurface of the earth; becauſe ſuch diſtance does not ſenſibly alter the diſtance from the center of the earth. But when the diſtance is ſo great as to bear a conſiderable proportion to the ſemi-diameter of the earth, then will the power of gravity decreaſe very ſenſibly: thus, at the diſtance of the moon, which is, at a medium, about ſixty ſemi-diameters of the earth, the power of gravity will be to that on the earth's ſurface, as 1 to 3600. See the articles GRAVITY, GRAVITATION, and CENTRAL FORCES.

As the attraction of coheſion is the cauſe of the ſolidity of ſmall bodies, ſo is the attraction of gravitation that chain, which being diffuſed over the ſolar ſyſtem, preſerves the planets in their orbits, and makes them revolve about the center of the ſyſtem. See SYSTEM.

That the attraction of gravitation and coheſion is the act of an immaterial cauſe, in virtue whereof inactive matter performs the offices for which it was deſigned; or that theſe diſpoſitions in bodies are not the reſult of any mechanical cauſe whatever; that is, ſuch as may ariſe from the effluvia of bodies, or the action of any other material ſubſtance, Mr. Rowning demonſtrates as follows: In the firſt place it is well known, that, if gravity acts upon bodies with the ſame degree of intenſeneſs, whether they be in motion or at reſt, it may be demonſtrated, that bodies, when projected, will deſcribe parabolas; and that, when vibrating in cycloids, their vibrations will be iſochronous, *&c.* In the next place, it is well known, that bodies, when projected, do deſcribe parabolas, and that, when vibrating in cycloids, their vibrations are iſochronous, *&c.* From which two properties it demonſtratively follows, that if gravity be the cauſe of the two abovementioned effects, it muſt act upon bodies with the ſame force, whether they be in motion or at reſt. Again, it is well known, that if attraction of coheſion acts upon rays of light with the ſame degree of intenſeneſs, whatever be the velocity they move with, it may be demonſtrated, that the ratio of the ſine of the angle of incidence to the ſine of the angle of refraction will be given. But in refraction of light, the ratio of theſe ſines is given in fact; if, therefore, attraction of coheſion be the cauſe of the refraction of light, it muſt act upon rays of light with the ſame intenſeneſs, whatever velocity they move with. See the articles LIGHT, REFRACTION, *&c.*

But no effluvia of bodies, no material ſubſtance, and, in ſhort, no material cauſe whatever, can act with the ſame intenſeneſs, or have the ſame effect upon a body in motion, as upon the ſame body at reſt; becauſe body can only act upon body, according to the ſum or difference of their motions. It remains therefore, that the two diſpoſitions herein mentioned are not the reſult of any material cauſe whatever. See the article MOTION.

Under the articles FLUID and CAPILLARY TUBES, may be ſeen how any fluid will aſcend above the common ſurface in capillary tubes, *&c.* by means of attraction; but the moſt notable and obvious motion of fluids, ariſing from attraction, is that of the tides; the theory of which we have explained at large under the article TIDES.

ATTRACTIVE, *attractivus, attractrix*, ſomething that has the power and property of attraction. See ATTRACTION.

ATTRACTIVE POWER, or FORCE, *vis attractiva.* See the articles POWER and ATTRACTION.

ATTRACTIVES, or ATTRACTIVE REMEDIES, medicines applied externally, that by their warmth and activity, penetrate the pores, mixing with, and rarefying all

obstructed matter, so as to fit it for discharge, upon laying open the part. These are the same with what we call drawers, ripeners, maturants, and digestives.

The principal simples of this class are most kinds of fat, the dungs of pigeons and cows, bran, yest, herring, melilot, tobacco, oil, pitch, resin, frankincense, &c. See the article SUPPURATIVES.

ATTRIBUTE, *attributum*, in a general sense, that which agrees with some person or thing; or a quality determining something to be after a certain manner. Thus, understanding is an attribute of mind, and extension an attribute of body.

That attribute which the mind conceives as the foundation of all the rest, is called its essential attribute; thus, extension is by some, and solidity by others, esteemed the essential attributes of body or matter.

ATTRIBUTES, in theology, the several qualities or perfections of the divine nature, or such as we conceive to constitute the proper essence of God; as his wisdom, power, justice, goodness, &c.

The heathen mythologists divided the deity into as many distinct beings as he had attributes. Thus his power was Jupiter; his absolute will, Fate; his wrath and vengeance, Juno, &c.

ATTRIBUTES, in logic, are the predicates of any subject, or what may be affirmed or denied of any thing. See the article PREDICATE.

ATTRIBUTES, in painting and sculpture, are symbols added to several figures, to intimate their particular office and character.

Thus the eagle is an attribute of Jupiter; a peacock, of Juno; a caduce, of Mercury; a club, of Hercules; and a palm, of Victory. For the attributes of the apostles. See the article APOSTLE.

ATTRITION, *attritio*, the rubbing or striking of bodies one against another, so as to throw off some of their superficial particles.

The grinding or polishing of bodies is performed by attrition, the effects of which are heat, light, fire, and electricity.

ATTRITION is also often used for the friction of such simple bodies as do not wear from rubbing against one another, but whose fluids are, by that motion, subjected to some particular determination; as the various sensations of hunger, pain and pleasure, are said to be occasioned by the attrition of the organs formed for such impressions.

ATTRITION, among divines, signifies a sorrow or repentance for having offended God, arising chiefly from the apprehensions of punishment, the loss of heaven, and the torments of hell; and differs from contrition, in as much as this last is conceived to arise from a love to God, as an ingredient or chief motive to our sorrow and repentance. See the article CONTRITION.

AVA, a kingdom of India, beyond the Ganges, situated on the north-east part of the bay of Bengal, between the countries of Arracan on the north, and Pegu on the south.

AVALON, a town of Burgundy, in France, situated in 3° 50′ east longitude, and 47° 25′ north latitude.

AVANT, a french term, contracted by us into van. See the article VAN.

AVAST, in the sea language, a term requiring to stop, to hold, or to stay.

AVAUNCHERS, among hunters, the second branches of a deer's horn. See the article HEAD.

AUBANE, in the customs of France, a right vested in the king of being heir to a foreigner that dies within his dominions.

By this right, the French king claims the inheritance of all foreigners that die within his dominions, notwithstanding of any testament the deceased could make. An ambassador is not subject to the right of aubane; and the Switz, Savoyards, Scots, and Portuguese, are also exempted, being deemed natives and regnicoles.

AUBE, a river of France, which, arising in the south-east part of Champaign, runs north-west, and falls into the Seine below Plancy.

AUBIGNI, a town of France, in the province of Berry, and government of Orleans, situated in 2° 20′ east longitude, and 47° 3′ north latitude.

AUBIN, or St. AUBIN, a town of Britany, in France; its west longitude being 1° 30′ and north latitude 48° 15′.

AUBIN, in horsemanship, a broken kind of gait, between an amble and a gallop, accounted a defect.

AUBURN, a market-town in Wiltshire, situated about twenty four miles west of Reading, in 1° 40′ west longitude, and 51° 30′ north latitude.

AUBUSSON, a town of France, in the province of Marche, and government of Lyonois: east longitude 2° 15′ and north latitude 45° 55′.

AUCTION, *auctio*, a kind of public sale,

very much in use for houshold goods, books, plate, &c. By this method of sale, the highest bidder is always the buyer.

This was originally a kind of sale among the antient Romans, performed by the public crier *sub hasta*, i. e. under a spear stuck up on that occasion, and by some magistrate who made good the sale by delivery [illegible] goods.

AUCTION *by inch of candle*. See the article CANDLE.

AUDE, a river of France, which, taking its rise in the Pyrenees, runs northwards by Alet and Carcassone; and from thence turning eastward through Languedoc, falls into the Mediterranean, a little to the north-east of Narbonne.

AUDIENCE, in a general sense. See the article HEARING.

AUDIENCE, given to embassadors, ceremonies observed in courts, at the admission of embassadors, or public ministers, to a hearing.

In England, audience is given to embassadors in the presence-chamber; to envoys and residents, in a gallery, closet, or in any place where the king happens to be. Upon being admitted, as is the custom of all courts, they make three bows, after which they cover and sit down; but not before the king is covered and sat down, and given them the sign to put on their hats.

When the king does not care to have them covered, and sit, he himself stands uncovered; which is taken as a slight.

At Constantinople, ministers usually have audience of the prime vizier.

AUDIENCE is also the name of a court of justice established in the West-Indies by the Spaniards, answering in effect to the parliaments of France.

These courts take in several provinces, called also audiences, from the names of the tribunal to which they belong.

AUDIENCE is also the name of an ecclesiastical court, held by the archbishop of Canterbury, wherein differences upon elections, consecrations, institutions, marriages, &c. are heard.

Chamber of AUDIENCE. See CHAMBER.

AUDIENDO & *terminando*, a writ, or more properly a commission, directed to certain persons, when any riotous assembly, insurrection, &c. is committed in any place, for appeasing it, and punishing the offenders.

AUDIT, a regular hearing and examination of an account by some proper officers, appointed for that purpose.

AUDITA QUERELA, a writ that lies usually where one is bound in a statute merchant, statute staple, or recognizance, where a person has any thing to plead, but hath not a day in a court for pleading it; or where judgment is given for debt, and the defendant's body in execution; then if he have a release, or other sufficient cause to be discharged therefrom, but wants a day in court to plead the same, this writ may be granted him against the person that has recovered, or against his executors.

This writ is granted by the lord-chancellor, upon view of the exception suggested to the judges of either bench, willing them to grant summons to the sheriffs of the county, where the creditor is, for his appearance, at a certain day, before them.

AUDITOR, in a general sense, a hearer, or one who listens and attends to any thing.

AUDITOR is also used for several officers, appointed to audit. See AUDIT.

It was antiently used for a judge. Notaries are also frequently called auditores.

AUDITOR, according to our law, is an officer of the king, or some other great person, who by examining yearly the accounts of the under-officers, makes up a general book, with the difference between their receipts and charges, and their allowances or allocations.

AUDITOR *of the receipts* is an officer of the exchequer who files the tellers bills, makes an entry of them, and gives the lord-treasurer a certificate of the money received the week before. He also makes debentures to every teller, before they receive any money, and takes their accounts. He keeps the black book of receipts, and the treasurer's key of the treasury, and sees every teller's money locked up in the new treasury.

AUDITORS *of the revenue, or of the exchequer*, officers who take the accounts of those who collect the revenues and taxes raised by parliament, and take the accounts of the sheriffs, escheators, collectors, tenants, and customers, and set them down in a book and perfect them.

AUDITORS *of the prest and imprest* are officers of the exchequer, who take and make up the accounts of Ireland, Berwick, the Mint, and of any money imprested to any man for the king's service.

AUDITORS *collegiate, conventual*, &c. officers formerly apppointed in colleges, &c. to examine and pass their accounts.

AUDI-

AUDITORY, the adjective, fomething relating to the fenfe of hearing. See the article HEARING.

AUDITORY, or AUDIENCE, an affembly of people who attend to hear a perfon that fpeaks in public.

AUDITORY is alfo ufed for the bench whereon a magiftrate or judge hears caufes.

AUDITORY was alfo the place in antient churches where the congregation ftood to hear preaching.

Meatus AUDITORIUS, auditory paffage, in anatomy, fee MEATUS AUDITORIUS.

AUDITORY NERVES, in anatomy, a pair of nerves arifing from the medulla oblongata, with two trunks, the one of which is called the *portio dura*, hard portion; the other *portio mollis*, or foft portion. See the article NERVE.

The *portio mollis* enters the foramen of the os petrofum, and thence through various little apertures, gets into the labyrinth of the ear, where it expands over all its parts, and conftitutes the primary organ of hearing.

The *portio dura*, paffing the aquæduct of Fallopius, turns back one or more branches from the anterior furface of the procefs of the petrofum, into the cavity of the cranium. It fends off alfo another branch internally, which with the branch from the fifth pair, ferves for the conftruction of the chorda tympani. It alfo fends off a number of other fmaller ramifications, which run to the mufcles and other parts of the tympanum.

AVEIRO, a fea-port town of Portugal, fituated near the ocean, at the mouth of the river Vouga, about twenty-eight miles fouth of Oporto, in 9° 8′ weft longitude, and 40° 32′ north latitude.

AVELLANE, in heraldry, a crofs, the quarters of which fomewhat refemble a filbert-nut.

Sylvanus Morgan fays, that it is the crofs which enfigns the mound of authority, or the fovereign's globe.

AVE-MARIA, the angel Gabriel's falutation of the virgin Mary, when he brought her the tidings of the incarnation. It is become a prayer, or form of devotion, in the romifh church. Their chaplets and rofaries are divided into fo many ave-maries, and fo many pater-nofters, to which the papifts afcribe a wonderful efficacy.

Dr. Bingham obferves, that among all the fhort prayers ufed by the primitive chriftians before their fermons, there is not the leaft mention of an ave-maria.

AVENA, the OAT, in botany. See the article OAT.

AVENOR, an officer belonging to the king's ftables, who provides oats for the horfes. He acts by warrant from the mafter of the horfe. See the article MASTER *of the horfe*.

AVENUE, in gardening, a walk planted on each fide with trees, and leading to an houfe, garden-gate, [illegible]d, *&c.* and generally terminated by fome diftant object. The width of avenues fhould be twelve or fourteen feet greater than the whole breadth of the houfe; and for thofe that lead to woods or profpects, they ought not to be lefs than fixty feet in breadth. The trees proper for planting avenues, are the englifh elm, the lime tree, the horfe-chefnut, the beech, and the abele.

The method of planting avenues with regular rows of trees, is with good reafon now much difufed; for nothing can be more abfurd, than to have the fight contracted by two or more lines of trees, which fhut out the view of the verdure and natural beauties of the adjacent grounds; but as fome perfons prefer avenues to the moft beautiful difpofition of lawns, gardeners have introduced a more magnificent way of planting them, which is, to place the trees in clumps or platoons, at about three hundred feet diftance from each other, making the opening much wider than before.

AVENUE, in fortification, an opening or inlet into a fort, baftion, or the like. See the article BASTION.

AVERAGE, in law, an antient fervice which the tenant owed to his lord by horfe or carriage.

AVERAGE, in commerce, fignifies the accidents and misfortunes which happen to fhips and their cargoes, from the time of their loading and failing to their return and unloading; and is divided into three kinds. 1. The fimple or particular average, which confifts in the extraordinary expences incurred for the fhip alone, or for the merchandizes alone. Such is the lofs of anchors, mafts, and rigging, occafioned by the common accidents at fea; the damages which happen to merchandize by ftorm, prize, fhipwreck, wet or rotting; all which muft be borne and paid by the thing which fuffered the damage. 2. The large and common average, being thofe expences incurred, and damages fuftained for the common good and fecurity both of the mer-

merchandizes and veſſels conſequently to be borne by the ſhip and cargo, and to be regulated upon the whole. Of this number are the goods or money given for the ranſom of the ſhip and cargo, things thrown over-board for the ſafety of the ſhip, the expences of unlading for entering into a river or harbour, and the proviſions and hire of the ſailors, when the ſhip is put under an embargo. 3. The ſmall averages, which are the expences for towing and piloting the ſhip out of, or into harbours, creeks, or rivers, one third of which muſt be charged to the ſhip, and two thirds to the cargo.

Average is more particularly uſed for a certain contribution, that merchants make proportionably towards their loſſes. It alſo ſignifies, a ſmall duty which thoſe merchants who ſend goods in another man's ſhip, pay to the maſter, for his care of them over and above the freight. Hence it is expreſſed in the bills of lading, paying ſo much freight for the ſaid goods with primage and average accuſtomed.

AVERAGE, in agriculture, a term uſed for breaking up cornfields, eddiſh, or roughings.

AVERDUPOIS, or AVERDUPOIS-WEIGHT, a ſort of weight uſed in England, the pound whereof is made up of ſixteen ounces. See WEIGHT.

This is the weight for the larger and coarſer commodities, ſuch as groceries, cheeſe, wool, lead, *&c.* Bakers who live not in corporation-towns, are to make their bread by averdupois-weight, thoſe in corporations, by troy weight. Apothecaries buy by averdupois-weight, but ſell by troy. The proportion of a pound averdupois to a pound troy is as 17 to 14.

AVERIA, in a general ſenſe, ſignifies any cattle, but is uſed in law for oxen, or horſes of the plough.

AVERMENT, an offer of the defendant, to make good an exemption pleaded in abatement, or bar of the plantiff's action.

General AVERMENT is the concluſion of every plea to the writ, or in bar of replications, or other pleadings, containing matter affirmative.

Particular AVERMENT is when the life of a tenant for life, or tenant in tail, is averred.

AVERNI, among antient naturaliſts, certain lakes, grottoes, and other places which infect the air with poiſonous ſteams or vapours, called alſo mephites.

AVER-PENNY, money paid in lieu of average. See the article AVERAGE.

AVERRHOA, a genus of the decandria pentagynia claſs of plants, whoſe flower conſiſts of five lanceolated petals, the fruit is an apple of a turbinated and obtuſe pentagonal figure, containing five cells, wherein are diſpoſed angular ſeeds, ſeparated by membranes.

AVERRUNCATION, in the antient agriculture, the ſame with pruning. See the article PRUNING.

AVERRUNCI, in the antient heathen theology, an order of deities among the Romans, whoſe peculiar office it was to avert danger and exile.

Apollo, and Hercules are ſuppoſed to be of this order.

AVERSA, a town of Naples, in the province of Lavoro, ſituated about ſeventeen miles ſouth of Capua, in 14° 45′ eaſt longitude, and 41° 15′ north latitude.

AVERSION, *averſio*, a diſtaſte, a diſlike, or abhorrence of ſomething.

The term averſion, though chiefly uſed in a moral ſenſe, is ſometimes uſed in a natural one; in which laſt caſe, it is ſynonymous with antipathy. See the article ANTIPATHY.

AVERTI, a term uſed in the manege, to ſignify ſuch a pace of a horſe, as is regulated, and required in the leſſons. *Pas ecouté, pas d'ecole*, among the French, ſignify the ſame thing.

AVES, ſome ſmall iſlands, belonging to the Dutch on the coaſt of Terra Firma, in ſouth America.

AVESNES, a little fortified town of Hainault, in the French Netherlands, ſituated about twenty-one miles ſouth of Mons, in 3° 40′ eaſt longitude, and 50° 10′ north latitude.

AUGES, in aſtronomy, the ſame with apſides. See the article APSIS.

AUGMENT, *augmentum*, in grammar, an accident of certain tenſes of greek verbs, being either the prefixing of a ſyllable, or an increaſe of the quantity of the initial vowels.

Of theſe there are two kinds, the *augmentum temporale*, or of a letter, when a ſhort vowel is changed into a long one, or a diphthong into another longer one; and *augmentum ſyllabicum*, or of a ſyllable, when a ſyllable is added at the beginning of the word.

AUGMENTS, in mathematics. See the articles FLUXION and MOMENT.

AUGMENTATION, αὔξησις, in a general

ral ſenſe, is the act of adding or joining ſomething to another, with a deſign to render it more large and conſiderable.

AUGMENTATION is alſo uſed for the additament or thing added.

AUGMENTATION was alſo the name of a court erected 27 Hen. VIII. ſo called from the augmentation of the revenues of the crown, by the ſuppreſſion of religious houſes; and the office ſtill remains, wherein there are many curious records, tho' the court has been diſſolved long ſince.

AUGMENTATION, in heraldry, are additional charges to a coat-armour, frequently given as particular marks of honour, and generally borne, either on the eſcutcheon or a canton; as have all the baronets of England, who have borne the arms of the province of Ulſter in Ireland.

AUGRE, or AWGRE, an inſtrument uſed by carpenters and joiners, to bore large round holes; and conſiſting of a wooden handle, and an iron blade, terminated at bottom with a ſteel bit.

AUGSBURG, a conſiderable city of Swabia in Germany; ſituated in 11° eaſt longitude, and 48° 20′ north latitude.

It is an imperial city, and remarkable for being the place where the Lutherans preſented their confeſſion of faith to the emperor Charles V. at a diet of the empire held in 1550; from hence denominated the *augſburg confeſſion*.

AUGUR, an officer among the Romans appointed to foretell future events, by the chattering and feeding of birds. There was a college or community of them conſiſting originally of three members, with reſpect to the three tribes, Luceres, Rhamnenſes, and Tatienſes: afterwards the number was increaſed to nine, four of whom were patricians and five plebeians. They bore an augural ſtaff or wand, as the enſign of their authority, and their dignity was ſo much reſpected, that they were never depoſed, nor any ſubſtituted in their place, though they ſhould be convicted of the moſt enormous crimes. See the article AUGURY.

AUGURAL, ſomething belonging to augurs or augury: thus, we meet with augural inſtruments, augural books, *&c.*

AUGURY, in antiquity, a ſpecies of divination, or the art of foretelling future events, is diſtinguiſhed into five ſorts. 1. Augury from the heavens. 2. From birds. 3. From chickens. 4. From quadrupeds. 5. From portentous events. When an augury was taken, the augur divided the heavens into four parts, and having ſacrificed to the gods, he obſerved, with great attention, from what part the ſign from heaven appeared. If, for inſtance, there happened a clap of thunder from the left, it was taken as a good omen. If a flock of birds came about a man, it was a favourable preſage, but the flight of vultures was unlucky. If, when corn was flung before the ſacred chickens, they crouded about it, and eat it greedily, it was looked upon as a favourable omen, but if they refuſed to eat and drink, it was an unlucky ſign. See the article DIVINATION.

AUGUST, in chronology, the eighth month of our year, containing thirty-one days, and ſo called from the emperor Auguſtus.

AUGUSTA, or AUSTA, an iſland in the gulph of Venice, on the coaſt of Dalmatia; ſituated in 17° 40′ eaſt longitude, and 42° 35′ north latitude.

AUGUSTALES, in roman antiquity, an epithet given to the flamins or prieſts appointed to ſacrifice to Auguſtus, after his deification, and alſo to the ludi or games celebrated in honour of the ſame prince on the fourth of the ides of October.

AUGUSTALIA, a feſtival inſtituted by the Romans, in honour of Auguſtus Cæſar, on his return to Rome after having ſettled peace in Sicily, Greece, Syria, Aſia, and Parthia; on which occaſion they likewiſe built an altar to him, inſcribed *Fortunæ reduci.*

AUGUSTALIS PRÆFECTUS, a title peculiar to a roman magiſtrate who governed Egypt, with a power much like that of a proconſul in other provinces.

AUGUSTAN, in a general ſenſe, denotes, ſomething relating to the emperor Auguſtus: thus, we ſay, *Auguſtan age*, *Auguſtan æra*, &c.

AUGUSTIN, or St. AUGUSTIN, the capital town of ſpaniſh Florida, in north America; ſituated near the frontiers of Georgia, in 81° weſt longitude, and 30° north latitude.

Cape-AUGUSTIN, a cape of Brazil, in ſouth America; lying in 35° weſt longitude, and 8° 30′ ſouth latitude.

AUGUSTINS, a religious order in the church of Rome, who follow the rule of St. Auguſtin, preſcribed them by Pope Alexander IV. Among other things, this rule enjoins to have all things in common, to receive nothing without the leave of the ſuperior; and ſeveral other precepts relating to charity, modeſty,

and chaſtity. There are likewiſe nuns of this order.

The auguſtins are cloathed in black, and at Paris are known under the name of the religious of St. Genevieve, that abbey being the chief of the order.

AVIARY, a place ſet apart for feeding and propagating birds. It ſhould be ſo large, as to give the birds ſome freedom of flight, and turfed, to avoid the appearance of foulneſs on the floor.

AVICENNIA, in botany, a genus of plants of the *tetrandria monogynia* claſs of Linnæus, the flower of which conſiſts of a ſingle petal, divided into four ovato-acuminated ſegments, the fruit is a coriaceous capſule of one cell, containing a ſingle ſeed of an elliptic figure.

AVIGNON, a large city of Provence, in France; ſituated on the eaſt ſide of the river Rhone, about twenty miles ſouth of Orange, in 4° 40′ eaſt longitude, and 43° 50′ north latitude.

Avignon is an archbiſhop's ſee, and with the whole diſtrict of Venaiſſine, ſubject to the pope.

AVILA, a beautiful city of old Caſtile in Spain, ſituated fifty miles north-weſt of Madrid, in 5° 20′ weſt longitude, and 40° 50′ north latitude.

AVILES, a ſea-port town of Aſturia, in Spain, in 6° 40′ weſt longitude, and 43° 30′ north latitude.

AVIS, BIRD, in zoology. See the articles BIRD and ONITHOLOGY.

AUKLAND, a market-town on the river Ware, in the biſhopric of Durham; ſituated about twelve miles ſouth-weſt of the city of Durham, in 1° 25′ weſt longitude, and 54° 40′ north latitude.

AUL, or AWL. See the article AWL.

AULA, is uſed for a court-baron, by Spelman; by ſome old eccleſiaſtical writers, for the nave of a church, and ſometimes for a court-yard.

AULCESTER, a market-town of Warwickſhire; ſituated about fourteen miles ſouth-weſt of Warwick, in 1° 50′ weſt longitude, and 52° 20′ north latitude.

AULIC, an epithet given to certain officers of the empire, who compoſe a court, which decides, without appeal, in all proceſſes entered in it. Thus we ſay, aulic council, aulic chamber, aulic counſellor. The aulic council is compoſed of a preſident, who is a catholic; of a vice-chancellor, preſented by the archbiſhop of Mentz; and of eighteen counſellors, nine of whom are proteſtants, and nine catholics. They are divided into a bench of lawyers, and always follow the emperor's court, for which reaſon they are called *juſtitium imperatoris*, the emperors's juſtice, and aulic council. The aulic court ceaſes at the death of the emperor, whereas the imperial chamber of Spire is perpetual, repreſenting not only the deceaſed emperor, but the whole germanic body, which is reputed never to die.

AULIC, in the ſorbonne and foreign univerſities, is an act which a young divine maintains upon being admitted a doctor in divinity.

It begins by an harangue of the chancellor, addreſſed to the young doctor, after which he receives the cap, and preſides at the aulic, or diſputation.

AULNEGER, or ALNAGER. See the article ALNAGER.

AULOS, αυλος, a grecian long-meaſure, the ſame with ſtadium. See STADIUM.

AUMONE, in law, ſignifies a tenure, where lands are given in alms, to ſome church or religious houſe. See the article FRANK-ALMOIGN.

AUNCEL-WEIGHT, an antient kind of balance, now out of uſe, being prohibited by ſeveral ſtatutes, on account of the many deceits practiſed by it. It conſiſted of ſcales hanging on hooks, faſtened at each end of a beam, which a man lifted up on his hand. In many parts of England, auncel-weight ſignifies meat ſold by the hand, without ſcales.

AUNCESTREL HOMAGE. See the article HOMAGE.

AUNIS, a maritime province of France, on the weſtern ſhore of the bay of Biſcay; having the province of Poictou on the north, and Santoigne on the ſouth.

AVOCATORIA, a mandate of the emperor of Germany, addreſſed to ſome prince, in order to ſtop his unlawful proceedings in any cauſe appealed to him.

AVOIDANCE, in the canon law, is when a benefice becomes void of an incumbent, which happens either in fact, as by the death of the parſon, or in law, as by ceſſion, deprivation, reſignation, &c. In the firſt of theſe caſes, the patron muſt take notice of the avoidance, at his peril; but in avoidance by law, the ordinary is obliged to give notice to the patron, in order to prevent a lapſe.

AVOIRDUPOIS, or AVERDUPOIS. See the article AVERDUPOIS.

AVON, a river of England, which, taking its riſe in Wiltſhire, runs by Bath, where it becomes navigable, and continues its

courſe

course towards Briftol, below which city it falls into the Severn.

AVON is alfo a river, which, arifing in Leicefterfhire, runs fouth-weft by Warwick and Evefham, and falls into the Severn at Tewkfbury in Gloucefterfhire.

AVOSETTA, in ornithology, a fpecies of recurviroftra, being an extreme fingular bird, variegated with black and white, and about the fize of a common lapwing. See the article RECURVIROSTRA.

AVOWEE, one who has a right to prefent to a benefice. See ADVOWSON.

He is thus called in contradiftinction to thofe who only have the lands to which the advowfon belongs for a term of years, or by virtue of intrufion or diffeifin. See the articles INTRUSION, &c.

AVOWRY, in law, is where a perfon diftrained fues out a replevin, for then the diftrainer muft avow, and juftify his plea, which is called his avowry. See the article REPLEVIN.

The avowry muft contain fufficient matter for judgment to have return, but fo much certainty is not required therein, as in a declaration; and if made for rent, though it appears that part of that rent is not due, yet the avowry is good for the reft.

AURA, among phyfiologifts, fignifies a vapour or exhalation, fuch as thofe which arife from mephitical caves. See the articles VAPOUR, and EXHALATION.

AURACH, a town of Swabia, in Germany, fituated about fifteen miles eaft of Tubingen; in 9° 20′ eaft longitude, and 48° 25′ north latitude.

AVRANCHES, a large, ftrong and well fituated city of France in the lower Normandy; fituated in 1° 16′ weft longitude, and 48° 41′ north latitude.

AURANTIUM, the ORANGE-TREE, in botany, makes a diftinct genus, according to Tournefort, but is comprehended under citrus, by Linnæus. See the articles ORANGE and CITRUS.

AURAY, a fea-port town of Brittany, in France; fituated about eighteen miles fouth-eaft of Port-Lewis, in 2° 45′ weft longitude, and 47° 40′ north latitude.

AUREA ALEXANDRINA, in pharmacy, an electuary compounded of above feventy ingredients, one of which was pure gold; and recommended by its inventor Alexander, a phyfician, as an antidote againft the colic and apoplexy.

AURENGABAD, a large city in the province of Vifiapour, in India, on this fide the Ganges, eaft longitude 75° 30′, and north latitude 19° 15′.

AUREOLA, in its original fignification, denotes a jewel, which is propofed as a reward of victory in fome public difpute. Hence, the roman fchoolmen applied it to the reward beftowed on martyrs, virgins, and doctors, on account of their works of fupererogation; and painters ufe it to fignify the crown of glory, with which they adorn the heads of faints, confeffors, &c.

AURES MARINÆ, EAR SHELLS, in natural hiftory, a name given to different fpecies of the haliotis. This is an univalve fhell-fifh of a flatted fhape, fomewhat refembling the human ear; its mouth is the wideft of all fhells, except the limpet. See the article HALIOTIS, and plate XXIV. fig. 3.

AUREUS, a roman gold-coin, equal in value to twenty-five denarii.

According to Ainfworth, the aureus of the higher empire weighed near five penny-weight, and in the lower empire, little more than half that weight. We learn from Suetonius, that it was cuftomary to give aurei to the victors in the chariot races.

AURICH, a town of Weftphalia, in Germany; fituated about twelve miles north eaft of Embden, in 6° 50′ eaft longitude, and 53° 40′ north latitude.

AURICHALCUM, or ORICHALCUM. See the article ORICHALCUM.

AURICLE, in anatomy, that part of the ear which is prominent from the head, called by many authors *auris externa*. See the article EAR.

AURICLES of the heart. Thefe are a kind of appendages of the heart at its bafe, and are diftinguifhed by the names of the right and left. The right auricle is much larger than the left, and this is placed in the hinder, that in the anterior part. They are intended as diverticula for the blood, during the fyftole. Their fubftance is mufcular, being compofed of ftrong fibres, and their motion is not fynchronous but achronous with that of the heart. See the article HEART.

AURICULÆ *primus & fecundus mufculus*, two mufcles of the ear, otherwife called fuperior and retrahens. See the articles SUPERIOR and RETRAHENS.

AURICULAR, whatever belongs or relates to the ear. Thus we fay, auricular witnefs, auricular confeffion, &c. as being done fecretly, and as it were in the ear.

AURI-

AURICULAR MEDICINES, ſuch as are uſed in the cure of diſtempers in the ear. See the article EAR.

AURIGA, the WAGGONER, in aſtronomy, a conſtellation of the northern hemiſphere, conſiſting of twenty-three ſtars, according to Tycho, 40 according to Hevelius, and 68 in the britannic catalogue.

AURILLAC, a neat and well-built city of France, in the upper Auvergne, noted for its trade in bone-lace: it is ſituated in 3° 31′ eaſt long. and 54° 44′ north lat.

AURIPIGMENTUM, *orpiment*, in natural-hiſtory. See the article ORPIMENT.

AURIS, the EAR, in anatomy. See EAR.

AURIS ELEVATOR, EXTERNUS, OBLIQUUS, TINNITUS, *&c.* See the article ELEVATOR, *&c.*

AURISCALPIUM, an inſtrument to clean the ears, and ſerving alſo for other operations in diſorders of that part.

AURORA, the morning twilight, or that faint light which begins to appear in the morning, when the ſun is within eighteen degrees of the horizon. See TWILIGHT.

AURORA BOREALIS is an extraordinary meteor, ſhewing itſelf in the night-time, in the northern parts of the heavens.

The moſt general phænomena of it are theſe: 1. In the northern parts of the horizon, there is an apparent, though not real cloud extended ſometimes farther towards the weſt than to the eaſt, and ſometimes farther towards the eaſt than weſt, taking up nearly a quarter of the horizon. 2. The upper edge of this cloud is generally terminated with one or more lucid arches, and ſometimes by a long bright ſtreak of light, lying parallel to the horizon. 3. Out of theſe arches proceed ſtreams of light generally perpendicular to the horizon, but ſometimes a little inclined to it, and very much reſembling the tail of comets. 4. The upper ends of the ſtreams appear and vaniſh inceſſantly, which cauſes ſuch a ſeeming trembling in the air, that you would think the upper part of the heavens to be as it were in convulſions. 5. When all the ſtreamings are over, the aurora commonly degenerates into a bright twilight in the north, and then gradually dies away.

The ſolutions of the phænomena of the aurora borealis are various. Dr. Halley has recourſe to the magnetic effluvia which he ſuppoſes enters the earth near the ſouth pole, and pervading its pores, paſs out again at the ſame diſtance from the northern; and thinks, that by the concourſe of ſeveral cauſes, they may be capable of producing a ſmall degree of light, either from the greater denſity of the matter, or from the greater velocity of its motion, after the ſame manner as we ſee the effluvia of electric bodies emit light in the dark. Monſieur de Marain endeavours to prove that it is owing to the zodiacal light, or the atmoſphere of the ſun, which mixing with our atmoſphere, and being of an heterogeneous nature, produces the ſeveral appearances of the aurora borealis. Mr. Maier, of the academy at Peterſburg, accounts for it from exhalations fermenting and taking fire in the atmoſphere; and Mr. Rowning gives a very ingenious and natural ſolution of all the above phænomena, from ſuch effluvia as are continually exhaled from the ſurface and bowels of the earth.

The aurora borealis is a very common phænomenon in countries near the pole; but there are not many upon record, as having appeared in England before that of March the 6th, 17$\frac{1}{1}\frac{5}{6}$. Since that time, however, they have been and ſtill continue very frequent.

AURUM, GOLD, in natural hiſtory. See the article GOLD.

The latin term *aurum* is chiefly uſed to denote certain chemical preparations, whereof gold is the principal ingredient. Such are, 1. Aurum fulminans, being a ſolution of gold in aqua regia, and precipitated with ſalt of tartar. This gives a much ſmarter and louder report than the common pulvis fulminans. 2. Aurum muſivum or moſaicum, which is made of tin, flowers of ſulphur, crude ſal armoniac, and purified quickſilver, by mixing and ſubliming the whole in a mattraſs. The aurum muſivum will be found under the ſublimed part, in the bottom of the mattraſs, and may be preſcribed in a doſe from four grains to a ſcruple, to kill worms in children. 3. Aurum potabile, potable gold. This is a compoſition made of gold, by ſeparating its ſalt and ſulphur, and then diſſolving it in a liquor, which takes the name of tincture of gold. It is ſuppoſed to poſſeſs the virtues of a cordial and ſudorific, but theſe can never be aſcribed to the gold, for it remains ſtill gold, and may be ſeparated in its own proper form by mere evaporation. 4. Aurum philoſophorum, which the alchemiſts hold ſtill more ſimple than gold, as conſiſting of mercury perfectly cleared from all ſulphur; but whether

whether there be any ſuch thing in nature, is a queſtion not yet decided.

AUSPICIUM, AUSPICY, the ſame with augury. See the article AUGURY.

Some authors indeed have ſuppoſed, that auſpicy regarded only the flight of birds, and therefore diſtinguiſhed it from augury, which obſerved the noiſe, chirping, and chattering of birds; but this is a diſtinction not always obſerved.

AUSTERE, rough, aſtringent. Thus an auſtere taſte is ſuch a one as conſtringes the mouth and tongue with ſome auſterity; as the taſte of unripe fruit.

Things of an auſtere taſte are ſuppoſed by ſome, from their glutinous quality, to generate the ſtone.

AUSTERITY, among moral writers, implies ſeverity and rigour. Thus we ſay, auſterity of manners.

Auſterity of bodies, according to the Carteſians, conſiſts in having obtuſe angular particles, like a blunt ſaw.

AUSTRAL, *auſtralis*, ſomething relating to the ſouth: thus the ſix ſigns on the ſouth ſide of the equinoctial are called auſtral ſigns.

AUSTRAL FISH, *auſtralis piſcis*, a ſmall conſtellation of the ſouthern hemiſphere, inviſible to us.

AUSTRIA, a circle of Germany, comprehending the arch-dutchy of Auſtria, alſo Styria, Carinthia, Carniola, Tyrol, Trent, and Brixen.

It is bounded by Bohemia and Moravia on the north; by Hungary, Sclavonia, and Croatia on the eaſt; by the dominions of Venice on the ſouth, and by Bavaria on the weſt.

AUSTRIAN NETHERLANDS. See the article NETHERLANDS.

AUTER FOIS ACQUIT, in law, a plea made by a criminal that he has been already acquitted of the ſame crime, with which he is charged. There are likewiſe pleas of auter fois convict and attaint, that he has been before convicted of the ſame felony.

AUTHENTIC, ſomething of acknowledged and received authority. In law it ſignifies ſomething cloathed in all its formalities, and atteſted by perſons to whom credit has been regularly given. Thus, we ſay, authentic papers, authentic inſtruments. In muſic, authentic is a term applied to four of the church modes or tones, which riſe a fourth above their dominants, which are always a fifth above their finals; in this diſtinguiſhed from the plegal modes, which fall a fourth below their finals. Thus when an octave is divided arithmetically according to the numbers 2, 3, 4, that is, when the fifth is flat, and the fourth ſharp, the mode or tone is called authentic, in contradiſtinction to the plegal tone, where the octave is divided harmonically, by the numbers 3, 4, 6, which makes the fourth a flat, and the fifth a ſharp. See MODE, TONE, *&c.*

AUTHENTICATING, the making a thing authentic. See the preceding article.

AUTHOR properly ſignifies one who created or produced any thing. Thus God, by way of eminence, is called the author of nature, the author of the univerſe.

The word author is ſometimes employed in the ſame ſenſe as inventor. As, Othe de Guerick is reported to be the author of the barometer.

AUTHOR, in matters of literature, a perſon who has compoſed ſome book or writing.

Authors may be diſtinguiſhed into ſacred and profane, antient and modern, known and anonymous, Greek, Latin, Engliſh, French, *&c.* and with regard to the ſubjects they treat, into divines, philoſophers, orators, hiſtorians, poets, grammarians, phyſiologiſts, *&c.*

An original author is he, who, in treating any ſubject, does not follow any other perſon, or imitate any model, either in the matter, or method of his compoſition. For inſtance, M. de Fontenelle is an original author in his Plurality of Worlds, but not in his Dialogues of the Dead.

AUTHORITY, in a general ſenſe, ſignifies a right to command, and make one's ſelf obeyed. In which ſenſe, we ſay, the royal authority, the epiſcopal authority, the authority of a father, *&c.*

Authority denotes alſo the teſtimony of an author; ſome apophthegm, or ſentence of an eminent perſon, quoted in a diſcourſe by way of proof.

Authority, in law, ſignifies a power given by word, or writing, to a ſecond perſon to act ſomething, and may be by writ, warrant, commiſſion, letter of attorney, *&c.* and ſometimes by law. An authority given to another, to do what a perſon himſelf cannot do is void; and it muſt be for doing a thing that is lawful, otherwiſe it will be no good authority.

Authority is repreſented, in painting, like a grave matron ſitting in a chair of ſtate,

ftate, richly cloathed in a garment embroidered with gold, holding in her right-hand a fword, and in her left a fceptre. By her fide is a double trophy of books and arms.

AUTO DE FE, ACT OF FAITH. See the article ACT.

AUTOCEPHALOUS, αυτοκεφαλος, in church-hiftory, denotes archbifhops who were independent of any patriarch.

AUTOCHTHONES, in antiquity, an appellation importing the fame with aborigines. See the article ABORIGINES.

AUTOGRAPH, αυτογραφον, denotes a perfon's hand-writing, or the original manufcript of any book, *&c.*

AUTOMATUM, or AUTOMATON, αυτοματον, an inftrument, or rather machine; which, by means of fprings, weights, *&c.* feems to move itfelf as a watch, clock, *&c.* Such alfo were Archytus's flying dove, Regiomontanus's wooden-eagle, *&c.*

AUTUMN, the third feafon of the year, when the harveft and fruits are gathered in. Hence, in the language of the alchemifts, it fignifies the time when the philofophers ftone is brought to perfection.

Autumn is reprefented, in painting, by a man at perfect age, cloathed like the vernal, and likewife girded with a ftarry girdle; holding in one hand a pair of fcales equally poized, with a globe in each; in the other, a bunch of divers fruits and grapes. His age denotes the perfection of this feafon, and the balance, that fign of the zodiac, which the fun enters when our autumn begins.

AUTUMNAL, fomething relating to autumn. Thus,

AUTUMNAL POINT is that point of the equinox from which the fun begins to defcend towards the fouth pole.

AUTUMNAL SIGNS, in aftronomy, are the figns libra, fcorpio, and fagittarius, thro' which the fun paffes during the autumn. See the article ZODIAC, *&c.*

AUTUMNAL EQUINOX, the time when the fun enters the autumnal point. See the article EQUINOX.

AUTUN, a city of Burgundy in France; fituated on the river Arroux, in 4° 15′ eaft longitude, and 46° 50′ north latit.

AUVERNE, a territory of the Lyonois in France; lying between the Bourbonois on the north, and the Cevennes on the fouth.

AUX, or AUGH, in geography, the capital city of Gafcony in France. It is one of the richeft archbifhop's fees in France, though but a fmall town, fituated in 20′ eaft longitude, and 43° 40′ north latitude.

AUXERRE, a city of Burgundy in France, fituated on the river Yonne, in 3° 35′ eaft longit. and 47° 40′ north latitude.

AUXILIARY, *auxiliaris*, whatever is aiding or helping to another.

AUXILIARY VERBS, in grammar, are fuch as help to form or conjugate others; that is, are prefixed to them, to form or denote the moods or tenfes thereof. As *to have* and *to be*, in the Englifh; *eftre & avoir* in the French; *ho & fono* in the Italian, *&c.*

In the englifh language, the auxiliary verb *am*, fupplies the want of paffive verbs. See the article PASSIVE.

AUXILIUM, in law, the fame with aid. See the article AID.

AUXILIUM CURIÆ, in law, a precept or order of court, to cite, or convene one party at the fuit of another.

AUXILIUM *ad filium militem faciendum, vel filiam maritandam*, a precept, or writ directed to the fheriff of every county where the king, or other lords had any tenants, to levy of them reafonable aid, towards the knighting his eldeft fon, or the marriage of his eldeft daughter. See the article AID.

AUXONE, a fmall city of Burgundy, in France, fituated on the river Soane, about feven miles weft of Dole, in 5° 22′ eaft longitude, and 47° 15′ north latitude.

AWARD, in law, the judgment of an arbitrator, or of one who is not appointed by the law a judge, but chofen by the parties themfelves for terminating their difference. See the article ARBITRATOR.

AWK, in ornithology, the fame with the alce or razor-bill. See RAZOR-BILL.

AWL, or AUL, among fhoe-makers, an inftrument wherewith holes are bored thro' the leather, to facilitate the ftitching, or fewing the fame. The blade of the awl is ufually a little flat and bended, and the point ground to an acute angle.

AWME, or AUME, a dutch liquid meafure, containing eight fteckans, or twenty verges or verteels, equal to the tierce in England, or to one-fixth of a ton of France.

AWN, *arifta*, in botany. See ARISTA.

AWNING, in the fea-language, is the hanging a fail, tarpauling, or the like, over any part of the fhip, to keep off the fun, rain, or wind.

AX, *fecuris*, among carpenters, an inftrument wherewith to hew wood.

This implement differs from the joiners hatchet, as being deeper and heavier.

Ax, Axle, or Axis. See Axis.

AXBRIDGE, a market town of Somerfetfhire, fituated about eight miles northweft of Wells, in 3° weft longitude, and 51° 30′ north latitude.

AXEL, a fmall fortified town of dutch Flanders, fituated about twenty miles weft of Antwerp, in 3° 40′ eaft longitude, and 51° 20′ north latitude.

AXILLA, in anatomy, the arm-pit, or the cavity under the upper part of the arm.

Axilla, in botany, the fpace comprehended betwixt the ftems of plants and their leaves.

AXILLARY, *axillaris*, fomething belonging to, or laying near the axilla. Thus,

Axillary artery is that part of the fubclavian branches of the afcending trunk of the aorta, which paffeth under the arm-pits. See the article Artery.

Axillary glands are fituated under the arm-pits, enveloped in fat, and lie clofe by the axillary veffels.

Axillary vein, one of the fubclavian veins which paffes under the arm-pit, dividing itfelf into feveral branches, which are fpread over the arm. See Vein.

AXIM, a town on the gold coaft of Guinea, where the Dutch have a fort and factory called St. Anthony: weft longitude, 4°, and north latitude 5°.

AXIOM, in philofophy, is fuch a plain, felf-evident, and received notion, that it cannot be made more plain and evident by demonftration; becaufe it is itfelf better known than any thing that can be brought to prove it: as, that nothing can act where it is not; that a thing cannot be, and not be, at the fame time; that the whole is greater than a part thereof; and that from nothing, nothing can arife. By axioms, called alfo maxims, are underftood all common notions of the mind, whofe evidence is fo clear and forcible, that a man cannot deny them, without renouncing common fenfe and natural reafon.

The rule whereby to know an axiom, is this: whatever propofition expreffes the immediate clear comparifon of two ideas, without the help of a third, is an axiom. But if the truth does not appear from the immediate comparifon of two ideas, it is no axiom.

Thefe fort of propofitions, under the name of axioms, have, on account of their being felf-evident, paffed not only for principles of fcience, but have been fuppofed innate, and thought to be the foundation of all our other knowledge; though, in truth, they are no more than identic propofitions: for to fay that all right angles are equal to each other, is no more than faying, that all right angles are right angles, fuch equality being implied in the very definition. All confideration of thefe maxims, therefore, can add nothing to the evidence or certainty of our knowledge of them: and how little they influence the reft of our knowledge, how far they are from being the foundation of it, as well as of the truths firft known to the mind, Mr. Locke, and fome others, have undeniably proved.

According to Bacon, it is impoffible that axioms raifed by argumentation fhould be ufeful in difcovering new works; becaufe the fubtilty of nature far exceeds the fubtilty of arguments: but axioms, duly and methodically drawn from particulars, will again eafily point out new particulars, and fo render the fciences active.

The axioms in ufe being derived from flender experience, and a few obvious particulars, are generally applied in a correfponding manner. No wonder, therefore, they lead us to few particulars; and if any inftance, unobferved before, happen to turn up, the axiom is preferved by fome trifling diftinction, where it ought rather to be corrected.

Axiom is alfo an eftablifhed principle in fome art or fcience.

Thus it is an eftablifhed axiom in phyfics, that nature does nothing in vain; fo it is in geometry, that if to equal things you add equals, the fums will be equal. It is an axiom in optics, that the angle of incidence is equal to the angle of reflection, &c. In which fenfe too, the general laws of motion are called axioms: whence it may be obferved, that thefe particular axioms are but deductions from certain hypothefes.

AXIS, in geometry, the ftraight line in a plane figure, about which it revolves, to produce or generate a folid: thus, if a femi-circle be moved round its diameter at reft, it will generate a fphere, the axis of which is that diameter.

Axis, in aftronomy. 1. Axis of the world, an imaginary right line conceived to pafs through the center of the earth from one pole to the other, about which the fphere of the world in the ptolemaic fyftem revolves in its diurnal rotation. 2. The axis of a planet, is that line drawn

through the center about which the planet revolves. The ſun, together with all planets, except Mercury and Saturn, are known by obſervation to move about their reſpective axes. The axis of the earth, during its revolution round the ſun, remains always parallel to itſelf, and is inclined to the plane of the ecliptic, making with it an angle of $66\frac{1}{2}$ degrees. See the articles PARALLELISM, INCLINATION, &c.

3. The axis of the equator, horizon, ecliptic, zodiac, &c. are right lines drawn through the centers of thoſe circles perpendicular to their planes. See the articles EQUATOR, HORIZON, &c.

AXIS, in conic-ſections, a right line dividing the ſection into two equal parts, and cutting all its ordinates at right angles. Thus, if A P (plate XXIV. fig. 4. N°. 1.) be drawn ſo as to cut the ordinate M N at right angles, and divide the ſection into two equal parts, then is the line A P the axis of the ſection. The tranſverſe, firſt, or principal axis of an ellipſis or hyperbola, is the axis A P, which in the ellipſis (*ibid.* N°. 2.) is the longeſt, and in the hyperbola (*ibid.* N°. 3.) cuts the curves in the points A and P. The conjugate, or ſecond axis of an ellipſis, is the line E F (*ibid.* N°. 2.) drawn through the center C, parallel to the ordinate M N, and perpendicular to the tranſverſe axis A P, being the ſhorter of the two, and terminated by the curve. The conjugate axis of an hyperbola is the right line EF (*ibid.* N°. 3. drawn thro' the center C, parallel to the ordinates MN, MN, and perpendicular to the traverſe axis A P. This axis, tho' more than infinite, is of a determinate length, and may be found by this proportion. As $\overline{AM} \times \overline{PM} : AP^2 :: MN^2 : EF^2$. The axis of the parabola is of an indeterminate length. This axis of the ellipſis is determinate. In the ellipſis and hyperbola, there are two axes, and no more; and, in the parabola, only one.

AXIS, in mechanics. The axis of a ballance is that line about which it moves, or rather turns about. Axis of oſcillation is a right line parallel to the horizon, paſſing through the center about which a pendulum vibrates. See the articles BALLANCE and PENDULUM.

AXIS IN PERITROCHIO, one of the five mechanical powers, conſiſting of a peritrochium or wheel concentric with the baſe of a cylinder, and moveable together with it about its axis. The power is applied at the circumference of the wheel, and the weight is raiſed by a rope that is gathered up on the axis while the machine turns round. The power may be conceived as applied at the extremity of the arm of a lever, equal to the radius of the wheel; and the weight as applied at the extremity of a lever, equal to the radius of the axis; only thoſe arms do not meet at one center of motion, as in the lever, but in place of this center, we have an axis of motion, *viz.* the axis of the whole machine. See LEVER. But as this can produce no difference, it follows, that the power and weight are *in æquilibrio*, when they are to each other inverſely as the diſtances of their directions from the axis of the engine; or when the power is to the weight as the radius of the roller to the radius of the wheel; the power being ſuppoſed to act in a perpendicular to this radius. But if the power act obliquely to the radius, ſubſtitute a perpendicular from the axis on the direction of the power, in the place of the radius, thus. If ABDE (plate XXIV. fig. 5.) repreſent the cylindric roller, HPN the wheel, LM the axis or right line, upon which the whole engine turns, Q the point of the ſurface of the roller, where the weight W is applied, P the point where the power is applied, K Q the radius of the roller, C P the radius of the wheel; then if the power P act with a direction perpendicular to C P, the power and weight will ſuſtain each other, when P is to W as K Q to C P or C H: but if the power act in any other direction P R, let C R be perpendicular from C the center of the wheel on that direction; then P and W will ſuſtain each other, when P is to W as K Q to C R; becauſe, in this caſe, a power P has the ſame effect, as if it was applied to the point R of its direction, acting in a right line perpendicular to C R.

The uſe of this machine is to raiſe weights to a greater heighth than the lever can do; becauſe the wheel is capable of being turned ſeveral times round, which the lever is not; and alſo to communicate motion from one part of a machine to another. Accordingly, there are few compound machines without it.

AXIS, in optics, is that ray, among all others that are ſent to the eye, which falls perpendicularly upon it, and which conſequently paſſes through the center of the eye.

Common

Common or mean axis, is a right line drawn from the point of concourſe of the two optic nerves, thro' the middle of the right line, which joins the extremity of the ſame optic nerves.

Axis of a glaſs or lens, is a right line joining the middle points of the two oppoſite ſurfaces of the glaſs.

Axis of incidence, in dioptrics, is a right line perpendicular in the point of incidence, to the refracting ſuperficies, drawn in the ſame medium that the ray of incidence comes from.

Axis of refraction is a right line drawn thro' the refracting medium, from the point of refraction, perpendicular to the refracting ſuperficies.

AXIS, in architecture. Spiral axis, is the axis of a twiſted column drawn ſpirally, in order to trace the circumvolutions without. See the article COLUMN.

Axis of the ionic capital, is a line paſſing perpendicularly through the middle of the eye of the volute. See the articles CAPITAL and VOLUTE.

Axis of a veſſel is an imaginary right line, paſſing through the middle of it perpendicularly to its baſe, and equally diſtant from its ſides.

AXIS, in anatomy, the ſecond vertebra of the neck, ſo called from the head's turning on it like an axis.

AXLE, or AXLE-TREE, the ſame with axis. See the article AXIS.

AXMINSTER, a market town of Devonſhire, ſituated about twenty-two miles eaſt of Exeter, in 3° 15′ weſt longitude, and 50° 40′ north latitude.

AXUMA, a city of Ethiopia, in Africa, ſituated in 38° eaſt longitude, and 15° north latitude.

AXUNGIA, in a general ſenſe, denotes old lard, or the drieſt and hardeſt of any fat in the bodies of animals: but, more properly, it ſignifies only hog's lard.

Phyſicians make uſe of the axungia of the gooſe, the dog, the viper, and ſome others, eſpecially that of man, which is held by ſome to be of extraordinary ſervice in the drawing and ripening of tumours.

AXUNGIA VITRI, ſandiver, or ſalt of glaſs, a kind of ſalt which ſeparates from the glaſs while it is in fuſion. It is of an acrimonious and biting taſte: the farriers uſe it for clearing the eyes of horſes: it is alſo made uſe of for cleanſing the teeth; and it is ſometimes applied to running ulcers, the herpes, or the itch, by way of deſiccative.

AXYRIS, in botany, a genus of the monoecia triandria claſs of plants, in the male flowers of which the calyx is a perianthium compoſed of four patent, obtuſe leaves, divided into three ſegments: there is no corolla: In the female flowers the calyx is compoſed of five obtuſe, concave, connivent, and permanent, leaves, with the two exterior ones ſhorter than the reſt: there is no corolla; nor is there any pericarpium; the ſeed is ſingle, oblong, compreſſed, obtuſe, and contained in the cup.

AYAMONTE, a ſea-port town of Andaluſia in Spain, ſituated near the mouth of the river Guadiana, in 8° 5′ weſt longitude, and 37° north latitude.

AYEL, in law, a writ which lies where the grandfather was ſeized in his demeſne the day he died, and a ſtranger enters the ſame day and diſpoſſeſſes the heir.

AYMOUTH, or EYMOUTH. See the article EYMOUTH.

AYRY, or AERY of hawks, a neſt or company of hawks ſo called from the old french word *aire*, which ſignified the ſame. See the article HAWK.

AZALEA, in botany, a genus of the *pentandria monogynia* claſs of plants, the flower of which conſiſts of a ſingle petal, divided at the ſummit into five ſegments: the fruit is a roundiſh capſule, formed of five valves, and containing as many cells: the ſeeds are numerous and roundiſh.

AZAZEL, the ſcape-goat, in jewiſh antiquity. See the article SCAPE-GOAT.

AZIMUTH, in aſtronomy, an arch of the horizon, intercepted between the meridian of the place and the azimuth, or vertical circle paſſing thro' the center of the object, which is equal to the angle of the zenith formed by the meridian and vertical circle: or it is found by this proportion, As the radius to the tangent of the latitude of the place, ſo is the tangent of the ſun's or ſtar's altitude, for inſtance, to the co-ſine of the azimuth from the ſouth, at the time of the equinox. To find the azimuth by the globe, ſee the article GLOBE.

Magnetical AZIMUTH, an arch of the horizon, intercepted between the azimuth, or vertical circle paſſing through the center of any heavenly body, and the magnetical meridian.

This is found by obſerving the object with an azimuth compaſs.

AZIMUTH-COMPASS, an inſtrument adapted to find, in a more accurate manner than by the common ſea-compaſs, the

sun or star's magnetical amplitude, or azimuth. See a description of this compass under the article *Azimuth*-Compass.

Azimuth-dial, one whose style or gnomen is at right angles to the plane of the horizon.

Azimuth-circles, called azimuths, or vertical circles, are great circles of the sphere, interfecting each other in the zenith and nadir, and cutting the horizon at right angles in all the points thereof.

The horizon being divided into 360°, they usually conceive 360 azimuths.

These azimuths are represented by the rhumbs on common sea-charts, and on the globe they are represented by the quadrant of altitude when screwed in the zenith. On these azimuths is reckoned the height of the stars, and of the sun when not in the meridian.

AZOGA SHIPS, are those spanish ships commonly called the quick-silver ships, from their carrying quicksilver to the spanish West-Indies, in order to extract the silver out of the mines of Mexico and Peru. These ships, strictly speaking, are not to carry any goods unless for the king of Spain's account.

AZONI, αζωνοι, in antient mythology, a name applied by the Greeks to such of the gods as were deities at large, not appropriated to the worship of any particular town or country, but acknowledged in general by all countries, and worshipped by every nation. These the Latins called *dii communes*. Of this sort were the Sun, Mars, Luna, &c.

AZORES, islands in the atlantic ocean, between 25° and 33° west longitude, and between 36° and 40° north latitude.

They belong to the Portuguese, and are sometimes called the western isles, as lying westward of Europe.

AZOTH, in antient chemistry, the first matter of metals, or the mercury of a metal; more particularly, that which alchemists call the mercury of philosophers, and which they pretend to draw from all sorts of metallic bodies.

The azoth of Paracelsus, which he boasted of as an universal remedy, is pretended to be a preparation of gold, silver, and mercury.

AZURE, in a general sense, the blue colour of the sky. See Sky and Blue.

Azure, among painters, the beautiful blue colour, with a greenish cast, prepared from the lapis lazuli, generally called ultramarine.

With greater propriety, however, azure signifies that bright blue colour prepared from the lapis armenus, a different stone from the lapis lazuli, though frequently confounded together. This colour is, by our painters, commonly called Lambert's blue.

Azure, in heraldry, the blue colour in the arms of any person below the rank of a baron. In the escutcheon of a nobleman, it is called saphire; and in that of a sovereign prince, Jupiter. In engraving, this colour is expressed by lines, or strokes drawn horizontally. See plate XXI. fig. 2.

AZURIUM, the name of a chemical preparation from two parts of mercury, one of sulphur, and a fourth of sal ammoniac, mixed in a mortar, put into a glass vessel, and set over the fire till a bluish smoke arises, &c.

AZYGOS, in anatomy, a vein arising within the thorax on the right side, having no fellow on the left; whence it is called azygos, or vena sine pari.

It is extended through the right side of the cavity of the thorax, and being descended to the eighth or ninth vertebra, it then begins to keep the middle, and sends forth on each side intercostal branches to the interstices of the eight lowest ribs; being then divided into two branches, of which the larger descends to the left, betwixt the processes of the diaphragm, and is inserted sometimes into the cava, above or below the emulgent, but oftener joined to the emulgent itself. The other, which goes down on the right side, enters the cava, commonly a little above the emulgent, but is very seldom joined to the emulgent itself.

AZYMITES, *azymitæ*, in church-history, christians who administer the eucharist with unleavened bread. This is an appellation given to the latin by the greek church, who also call the armenians and maronites, who use unleavened bread in their office, by the name of azymites. See the next article.

AZYMOUS, αζυμος, something unfermented, as bread, &c. made without leaven.

This term has occasioned frequent disputes, and, at length, a rupture between the latin and the greek churches; the former of which maintain, that the bread in the mass ought to be azymous, unleavened, in imitation of the paschal bread of the jews, and of our saviour, who instituted the sacrament on the day of

of the paſſover. The latter as ſtrenuouſly maintain the contrary from tradition, and the common uſage of the church.

It is related, that during the firſt ages of the church, none but unleavened bread was uſed in the euchariſt, till ſuch time as the Ebionites aroſe, who held, that all obſervances preſcribed by Moſes, were ſtill in force. Upon which both the eaſtern and weſtern churches took up the uſe of leavened bread; and after the extinction of that hereſy, the weſtern church, returned to the azymous, the eaſtern obſtinately adhering to the former uſage.

It is obſerved by Galen, that all unfermented bread is very unwholeſome.

B.

B, The ſecond letter of the alphabet, and firſt conſonant, is ſuppoſed, in its pronunciation, to reſemble the bleating of a ſheep.

It is formed in the voice by a ſtrong and quick expreſſion of the breath, and opening of the lips; and is therefore one of the labials: as a mute, it hath a middle power between the ſmooth ſound of P, and the rougher ſound of F, and V.

B is alſo uſed as an abbreviation: thus, in muſic, B ſtands for the tone above A, as B♭, or ♭B, does for B flat, or the ſemitone major above A: B alſo ſtands for baſs, and B. C. for *baſſo continuo*, or thorough baſs. As a numeral, B was uſed by the Greeks and Hebrews, to denote 2: but among the Romans, for 300, and with a daſh over it (thus $\overline{B}$) for 3000. The ſame people likewiſe uſed B. for Brutus, B. F. for *bonum factum*. B and V are uſed indifferently for each other, as *ſebum* and *ſevum*: ſo alſo B and P, as *Publicola* and *Poplicola*; and B and F, as *Bubalus* and *Bufalus*. B, in the chemical alphabet, ſignifies Mercury. B. A. ſtands for batchelor of arts; B. L. for batchelor of laws; and B. D. for batchelor of divinity. B. is ſervile in the inflection of the dative and ablative plural of the third, fourth, and fifth declenſion of latin nouns.

BABBLING, among ſportſmen, is ſaid of hounds which are too buſy, after they have found a good ſcent.

BABELMANDEL, a little iſland at the entrance of the Red-ſea, from the indian ocean; from whence the ſtraits of Babelmandel take their name.

BABOON, in zoology, a large kind of ape, common in the Eaſt and Weſt Indies. The head is large, and the mouth in a particular manner furniſhed with whiſkers, the face is naked, but the back part of the head hairy. It has a very ſhort tail, and is of a dark olive-colour. See the article SIMIA.

BABYLON, a celebrated city of antiquity, ſuppoſed to have been ſituated on the river Euphrates, though not on its preſent channel, in 44° eaſt longitude, and 32° north latitude. But of this once ſo flouriſhing a city, there are now no remains; nor even the place, where it ſtood, certainly known.

BABYLON was alſo an antient city of Egypt, ſuppoſed to have ſtood where Grand-Cairo does at preſent.

BABYLONISH, or BABYLONIAN, ſomething belonging, or peculiar to Babylon: thus, we meet with babylonian epocha, hour, *&c.* See the articles EPOCHA, HOUR, *&c.*

BABYLONICS, *Babylonica*, in literary hiſtory, a fragment of the antient hiſtory of the world, ending at 267 years before Chriſt; and compoſed by Beroſus or Beroſſus, a prieſt of Babylon, about the time of Alexander. Babylonics are ſometimes alſo cited in antient writers by the title of Caldaics. The Babylonics were very conſonant with ſcripture, as Joſephus, and the antient chriſtian chronologers aſſure; whence the author is uſually ſuppoſed to have conſulted the Jewiſh writings. Beroſus ſpeaks of an univerſal deluge, an ark, *&c.* He reckons ten generations between the firſt man and the deluge, and marks the duration of the ſeveral generations by *ſaroi*, or periods of 223 lunar months; which reduced to years, differ not much from the chronology of Moſes.

The Babylonics conſiſted of three books, including the hiſtory of the antient Babylonians, Medes, *&c.* but only a few imperfect extracts are now remaining of the work; preſerved chiefly by Joſephus, and

and Syncellus; where all the passages of citations of antient authors out of Berosus are collected with great exactness. Annius of Viterbo kindly offered his assistance to supply the loss, and forged a compleat Berosus out of his own head. The world has not thanked him for the imposture.

BABYROUSSA, in zoology, the indian hog. See the article HOG.

This is the sus with two teeth growing on the forehead, and is a very extraordinary animal; it is of the bigness of our largest hogs, but less corpulent in proportion to its height; the most distinguishing character of this species of the hog, is a pair of exerted teeth in the lower jaw, not unlike those of many other animals, and another pair in the upper jaw, which perforate the flesh of the head, and stand forward in the manner of horns.

BACA, a town of Granada in Spain; situated about forty-eight miles north-east of the city of Granada, in 3° west longitude, and 37° 30′ north latitude.

BACCA, BERRY, in botany, *&c.* See the article BERRY.

BACCASERAI, the capital city of Crim-Tartary, situated about eighty miles west of the straits of Kaffa, in 35° east longitude, and 45° 15′ north latitude.

BACCEM, or BACIAIM, a sea-port town of Cambaya, in the hither peninsula of India. It belongs to the Portuguese, and is situated in 73° east longitude, and 19° 20′ north latitude.

BACCHÆ, in antiquity, priestesses of the god Bacchus. They were likewise called *mænades*, on account of the frantic ceremonies used in their feasts; as also *thyades*, which signifies impetuous, or furious. They celebrated the orgies of their god, covered with skins of tygers and panthers, and running all the night, some with their hair loose, with torches in their hands, others crowned with vine and ivy leaves, carrying the thyrsus. Along with them went cymbal-players, and drummers; while they themselves, seized with enthusiasm, made hideous lamentations.

BACCHANALIA, feasts celebrated in honour of Bacchus by the antient Greeks and Romans; of which the two most remarkable were called the greater and lesser. The latter, called *lenæa*, from a word signifying a wine-press, were a preparation for the former, and were held in the open fields about autumn; but the greater, called Dionysia, from one of the names of Bacchus, were celebrated in the city, about the spring-time. Both these feasts were accompanied with games, spectacles, and theatrical representations, and it was at this time, the poets contended for the prize of poetry. Those who were initiated into the celebration of these feasts, represented some Silenus; others, Pan; others, Satyrs; and in this manner appeared in public night and day, counterfeiting drunkenness, dancing obscenely, committing all kinds of licentiousness and debauchery; and running over the mountains and forests, with horrible shrieks and howlings, crying out, Εὐοῖ Βάκχε, *Evoe Bacche*, or Ἰὼ Βάκχε, *Io Bacche*. Livy informs us, that during the bacchanalian feasts at Rome, such shocking disorders were practised under the cover of the night, and those who were initiated were bound to conceal them by an oath attended with horrid imprecations, that the senate suppressed them first in Rome, and afterwards throughout all Italy.

BACCHARIS, a genus of plants of the *syngenesia polygamia superflua* class of Linnæus; the intire flower of which consists of a mixture of hermaphrodite and female flowers. The hermaphrodite ones are monopetalous, of a funnel form, and divided into five segments; the female ones are scarce visible. The cup incloses solitary oblong seeds, crowned with simple down.

BACCHIUS, in antient poety, a kind of foot composed of a short syllable, and two long ones, as the word ăvārī. It takes its name from the god Bacchus, because it frequently entered into the hymns composed in his honour. The Romans called it likewise *œnotrius, tripodius, saltans*, and the Greeks παριαμβος.

BACCIFEROUS, an epithet added to the names of any trees, shrubs, or plants, that bear berries, as bryony, dwarf honey-suckle, lily of the valley, asparagus, butcher's broom, night-shade, solomon's seal, and many others.

BACHELOR, or BATCHELOR. See the article BATCHELOR.

BACHERAC, a town of the palatinate of the Rhine, situated on the western shore of that river, in 7° east lon. and 50° north lat. It is remarkable for excellent wine, from thence called bacherac.

BACHIAN, one of the Molucca-islands, situated under the equator, in 125° east longitude. It belongs to the Dutch.

BACHU, a seaport town of the province of

of Chirwan, or Shirvan, in Perſia. It is ſituated on the weſtern ſhore of the Caſpian ſea, in 49° eaſt lon. and 40° north lat.

BACK, *dorſum*, in anatomy. See DORSUM.

BACK, in the manege. To back a horſe, or mount a horſe, *a dos*, is to mount him bare-backed, or without a ſaddle. A weak-backed horſe is apt to ſtumble: ſuch a horſe defends himſelf with his back, is when he leaps and plays with his fillets, and doubles his reins, to incommode his rider.

BACK, among builders. See BAGUETTE.

BACK-NAILS. See the article NAILS.

BACKS *of a hip*. See the article HIP.

BACK-BONE, or SPINE. See SPINE.

BACK-GAMMON, an ingenious game played with dice and tables, to be learned only by obſervation and practice.

However, the following rules concerning it, cannot fail to be acceptable to our readers. In the firſt place, the men, which are thirty in number, being equally divided between the two gameſters, are placed thus, *viz.* two on the ace point, five on the ſide of your left hand table, three on the cinque, and five on the ace point of your right hand table; which are anſwered on the like points by your adverſary's men: or they may be diſpoſed thus, *viz.* two on the ace point, five on the double ſice or ſice-cinque point, three on the cinque point in your own tables, and five on the ſice point at home; which are to be anſwered by your adverſary.

The men being thus diſpoſed, be ſure to make good your trey and ace points; hit boldly, and come away as faſt as you can. When you come to bearing, have a care of making when you need not; and doublets now will ſtand you moſt in ſtead. If both bear together, he that is firſt off, without doublets, wins one: if both bear, and one goes off with doublets, he wins two. If your table be clear before your adverſary's men are come in, that is a back-gammon, which is three; but if you thus go off with doublets, it is four.

The great dexterity of this game, is to be forward, if poſſible, upon ſafe terms; and ſo to point the men, that it ſhall not be poſſible for the adverſary to paſs; though you have entered your men, till you give him liberty, after having got two to one of the advantage of the game.

BACK-STAFF, in the ſea-language, an inſtrument to take the ſun's altitude. It conſiſts of two arches, and three vanes: the arch *f g* (plate XXV. fig. 1.) contains commonly ſixty degrees, whence it is generally called the ſixty arch; and is numbered from *f* towards *g*; the other arch, *d e*, contains thirty degrees, or the complement of the former, being numbered from *e* towards *d*. On the ſurface of this arch are deſcribed twelve concentric circles, whereby each degree, by the help of diagonal lines, is divided into 12 equal parts, and conſequently the altitude may be obtained to five minutes. The ſight vane A is a piece of wood or braſs, of about three inches long and one broad, and is fitted to ſlide on the arch *d e*; in the middle of this vane is drilled a fine hole, through which both the ſolar ſpot, or ſhadow, and horizon are to be viewed at the time of obſervation. The horizon vane B is of about the ſame length and breadth as the former; and at the time of obſervation is fixed at B; it has a ſlit cut through it of about an inch long, and a quarter of an inch broad, through which the horizon is to be obſerved. The ſhade vane C is fitted to the arch *d e*, and has generally a convex lens ſet therein, which caſts the ſolar ſpot on the horizon vane at the time of obſervation, being one of the many inventions of the celebrated Mr. Flamſteed.

To find the ſun's altitude by this inſtrument: fix the ſhade vane C on the 60° arch, at about 15 or 20 degrees leſs than the complement of the altitude, and turning your back towards the ſun, move the ſight vane A up and down the arch *d e*, till the ſun's image fall on the horizon vane B, and at the ſame inſtant you ſee the horizon through the ſlit in the horizon vane; then will the degrees cut by the ſhade vane C, on the arch *f g*, being added to thoſe cut by the ſight vane A, on the arch *d e*, be the ſun's zenith diſtance at that time, which being ſubtracted from 90 degrees, will give his altitude. But to obtain the ſun's greateſt altitude, or altitude when he is in the meridian (which is required in finding the latitude) continue obſerving, and as the ſun approaches the meridian, the ſea will appear through the ſlit in the horizon vane, and then muſt the ſlit vane be removed lower. And thus continue obſerving, till the ſun be in the meridian, and, as ſoon as he begins to decline, the ſky will appear through the ſlit in the horizon vane, when your obſervation will be finiſhed, and the degrees on the ſixty arch, being added to thoſe on the thirty arch, will give the complement of the ſun's meridian al-

titude or zenith diſtance, as before. This inſtrument, commonly called Davis's quadrant, from the name of the inventor, and by the French, the engliſh quadrant, is not ſo accurate as could be wiſhed; and a large heavy braſs aſtrolabe is to be preferred before it. See the articles ASTROLABE and QUADRANT.

BACK-STAYS *of a Ship*, are ropes belonging to the main-maſt and fore-maſt, and the maſts belonging to them; ſerving to keep them for pitching forwards or overboard. See the article STAY.

BACK-WORMS, in falconry. See the article FILANDERS.

BACKBERINDE, in law, ſignifies the bearing upon the back, or about a perſon; being a circumſtance of theft apparent, for which a foreſter may arreſt an offender in the foreſt againſt vert and veniſon.

BACKING a colt or horſe. See HORSE.

BACULE, in fortification, a kind of portcullis, or gate, made like a pit-fall with a counterpoiſe, and ſupported by two great ſtakes. It is uſually made before the corps de guard, not far from the gate of a place.

BACULOMETRY, the art of meaſuring acceſſible, or inacceſſible heights, by the help of one or more baculi, ſtaves, or rods.

BACULUS DIVINATORIUS. See the article VIRGULA DIVINA.

BADAJOX, a large fortified town of ſpaniſh Eſtremadura, ſituated on the river Guadiana, in 7° 20′ weſt longitude, and 38° 45′ north latitude.

BADALON, a town of Catalonia, in Spain, ſituated on the Mediterranean, about ten miles eaſt of Barcelona, in 2° 15′ eaſt longitude, and 41° 15′ north latitude.

BADEN, the name of ſeveral towns: 1. Of one about twenty miles north of Straſburgh, capital of the margravate of the ſame name, and remarkable for its hot baths. 2. Of another town of Swabia, in the Briſgow; where are likewiſe ſeveral hot baths. 3. Of one in Switzerland, about fourteen miles north-weſt of Zurich. 4. Of one in the circle of Auſtria, about fifteen miles ſouth of Vienna.

BADENOCH, an inland country of Inverneſs-ſhire, in Scotland, lying between Aberdeen-ſhire and Lochaber.

BADGER, *meles*, in zoology. See MELES.

BADGER, in old law-books, one that was licenced to buy corn in one place, and carry it to another to ſell, without incurring the puniſhment of an ingroſſer.

BADIAGA, a water-plant reſembling the alcyoniums, but full of ſmall round granules, like ſeeds. Linnæus makes it a ſpecies of ſpunge. See SPONGIA.

It is a native of the northern kingdoms of Europe, and is ſaid to be good for removing the livid marks from blows.

BADIS, a fortreſs of Livonia, ſubject to Ruſſia, and ſituated twenty miles weſt of Revel, in 23° eaſt lon. and 59° 15′ north latitude.

BÆCKEA, in botany, a genus of the octandria monogynia claſs of plants, the calyx of which is a permanent perianthium, conſiſting of a ſingle funnel-ſhaped leaf, cut into five ſegments at the brim; the corolla conſiſts of five roundiſh ſpreading petals inſerted into the cup: the pericarpium is a globoſe capſule, made up of four valves, and containing four cells, in which are a few roundiſh angular ſeeds.

BÆTYLIA, βαιτυλια, anointed ſtones, worſhipped by the Phœnicians, by the Greeks before the time of Cecrops, and by other barbarous nations. They were commonly of a black colour, and conſecrated to ſome god, as Saturn, Jupiter, the Sun, *&c.*

Some are of opinion, that the true original of theſe idols is to be derived from the pillar of ſtone which Jacob erected at Bethel.

BÆZA, or BAEZA, a large city of Andaluſia in Spain, ſituated on the river Guadalquivir, in 3° 15′ weſt longitude, and 37° 40′ north latitude.

BAFFETAS, or BASTAS, a cloth made of coarſe white cotton thread, which comes from the Eaſt Indies. Thoſe of Surat are the beſt.

BAFFIN's BAY, a gulph of north America, running north-eaſt from cape Farewell in weſt Greenland, from 60° north latitude to 80°.

BAG, in commerce, a term ſignifying a certain quantity of ſome particular commodity; as a bag of almonds, for inſtance, is about three hundred weight; of aniſe-ſeeds, from three to four hundred, *&c.*

Bags are uſed in moſt countries, to put ſeveral ſorts of coin in, either of gold, ſilver, braſs, or copper. Bankers, and others who deal much in current caſh, label their bags of money, by tying a ticket or note at the mouth of the bag, ſignifying the coin therein contained, the ſum total, its weight, and of whom it was received. Tare is allowed for the bag.

BAG,

BAG, among farriers, is when, in order to retrieve a horſe's loſt appetite, they put an ounce of aſa fœtida, and as much powder of ſavin, into a bag, to be tied to the bit, keeping him bridled for two hours, ſeveral times a day: as ſoon as the bag is taken off, he will fall to eating. The ſame bag will ſerve a long time.

BAG is alſo uſed compounded with other words, as oil-bag, petty-bag, ſand-bags, *&c.* See the articles OIL, PETTY, *&c.*

BAGDAT, a ſtrong town of Turky, on the frontiers of Perſia, ſituated on the river Tigris, in the province of Iraca-arabic; it was formerly capital of the ſaracen empire, and lies in 43° eaſt longit. and 33° 20′ north latitude.

BAGGAGE, in military affairs, denotes the cloaths, tents, utenſils of divers ſorts, proviſions, and other neceſſaries belonging to an army.

Before a march, the waggons with the baggage are marſhalled according to the rank which the ſeveral regiments bear in the army; being ſometimes ordered to follow the reſpective columns of the army, ſometimes to follow the artillery, and ſometimes to form a column by themſelves. The general's baggage marches firſt; and each waggon has a flag, ſhewing the regiment to which it belongs.

BAGGING *of hops*, the putting them in bags. See the article HOPS.

BAGNAGAR, the capital of Golconda, in the hither peninſula of India, formerly the reſidence of the kings of Golconda, now ſubject to the mogul: in eaſt long. 77° 30′, and north latitude 16° 30′.

BAGNIALUCK, a large city of Boſnia, in european Turkey, ſituated in 18° 15′ eaſt longitude and 44° north latitude.

BAGNIO, an italian word, ſignifying a bath: we uſe it for a houſe with conveniences for bathing, cupping, ſweating, and otherwiſe cleanſing the body; and ſometimes for worſe purpoſes.

BAGNIO is, in Turky, become a general name for the priſons where their ſlaves are incloſed, it being uſual in theſe priſons to have baths.

BAGNOLIANS, BAGNOLENSES, in church-hiſtory, a ſect of heretics, who in reality were manichees, though they ſomewhat diſguiſed their errors. They rejected the Old Teſtament, and part of the New; held the world to be eternal, and affirmed that God did not create the ſoul when he infuſed it into the body.

BAGPIPE, a muſical inſtrument of the wind kind, chiefly uſed in country places, eſpecially in the north: it conſiſts of two principal parts; the firſt a leathern bag, which blows up like a foot-ball, by means of a port-vent, or little tube, fitted to it, and ſtopped by a valve: the other part conſiſts of three pipes or flutes, the firſt called the great pipe, or drone; and the ſecond, the little one; which paſs the wind out only at the bottom: the third has a reed, and is played on by compreſſing the bag under the arm, when full, and opening or ſtopping the holes, which are eight, with the fingers. The little pipe is ordinarily a foot long; that played on, thirteen inches; and the port-vent ſix.

BAGUETTE, in architecture, a ſmall round moulding, leſs than an aſtragal, and ſo called from the reſemblance it bears to a ring.

BAHAMA, or LUCAYA-ISLANDS, a number of iſlands lying in the Atlantic ocean, between 21° and 27° north latitude, and between 73° and 81 weſt longitude.

Theſe iſlands, whereof twelve are of a conſiderable extent, take their name from Bahama, one of the largeſt of them, lying between 78° and 81° weſt longitude, and between 26° and 27° north latitude.

BAHAR, or BARRE, in commerce, weights uſed in ſeveral places in the Eaſt-Indies. There are two of theſe weights, the one the great bahar, with which they weigh pepper, cloves, nutmegs, ginger, *&c.* and contains five hundred and fifty pounds of Portugal, or about five hundred and twenty-four pounds nine ounces avoirdupois weight. With the little bahar they weigh quickſilver, vermilion, ivory, ſilk, *&c.* It contains about four hundred and thirty-ſeven pounds nine ounces avoirdupois weight.

BAHAREN, an iſland in the perſian gulph, in 50° eaſt lon. and 26° north lat.

BAHIR, a hebrew term, ſignifying famous or illuſtrious; but particularly uſed for a book of the Jews, treating of the profound myſteries of the cabbala, being the moſt antient of their rabbinical works.

BAHUS, a city of Sweden, capital of a province of the ſame name, and ſituated about twenty miles north-weſt of Gottenburgh, in 11° eaſt longitude, and 58° 20′ north latitude.

BAJA, a town of Italy, in the kingdom of Naples, and province of Lavoro, ſituated in 14° 45′ eaſt long. 41° 6′ north lat.

BAJADOR, a cape on the weſt coaſt of Africa, in 15° weſt long, and 27° north latitude.

BAIL, in law, the setting at liberty one arrested, or imprisoned, upon an action, either civil or criminal, upon sureties taken for his appearance at a day and place assigned; and is either common or special.

Common bail is in actions of small prejudice, or slight proof, in which case any sureties are taken.

Special bail is that given in cases of greater moment, where it is required that the sureties be subsidy-men at least, and according to the matter in question.

It was some years ago enacted, that no person should be held to special bail in any action brought for less than ten pounds: but this is only observed as to writs issued out of the courts of Westminster-hall; for the marshal's court continues to arrest and hold to special bail in actions exceeding forty shillings.

By the indulgence of the common law, all persons might be bailed till they were convicted of the offence laid to their charge: but it is enacted by statute, that murderers, outlaws, house-burners, thieves openly defamed, shall not be bailed. However, this statute does not extend to the court of the king's-bench, which bails in all cases whatsoever, and may bail even for murder, *&c.*

Clerk of the BAILS is an officer belonging to the court of the king's-bench: he files the bail-pieces taken in that court, and attends for that purpose.

BAILE, or BALE, in the sea-language. The seamen call throwing the water by hand, out of the ship or boat's hold, bailing. They also call those hoops that bear up the tilt of a boat, its bails.

BAILMENT, in law, the delivery of things, whether writings or goods, to another, sometimes to be delivered back to the bailer, that is, to him who so delivers them; sometimes, to the use of him to whom they are delivered; and sometimes, to a third person.

BAILIAGE, or BAILIWICK. See the article BAILIWICK.

Water-BAILIAGE, an antient duty paid to the city of London, for all goods brought into, or carried out of the port.

BAILIFF, an officer appointed for the administration of justice within a certain district, called a bailiwick.

BAILIFFS ERRANT, such as are appointed by the sheriff, to go up and down the county, to serve writs and warrants, summon county-courts, sessions, assizes, and the like.

BAILIFFS *of franchises*, those appointed by every lord within his liberty, to do such offices therein, as the bailiff errant does at large in the county.

There are also bailiffs of forests, and bailiffs of manors, who direct husbandry, fell trees, gather rents, pay quit rents, *&c.*

Water-BAILIFF, an officer appointed in all port-towns, for the searching of ships, gathering the toll for anchorage, *&c.* and arresting persons for debts, *&c.* on the water.

BAILIFF, however, is still applied to the chief magistrate of several corporate towns. The government of some of the king's castles is also committed to persons called bailiffs, as the bailiff of Dover castle.

In France, bailiffs have some considerable prerogatives: they are reputed heads of their respective districts, or administer justice by their lieutenants, at least within the precincts of the several parliaments or provinces of France. In their name justice is administred, contracts and other deeds passed, and to them is committed the command of the militia.

In Scotland bailiff is the name of a judge, as well as the appellation of aldermen.

BAILIWICK, that liberty which is exempted from the sheriff of the county, over which liberty the lord thereof appoints his own bailiff, with the like power within his precinct, as an under-sheriff exercises under the sheriff of the county: or it signifies the precinct of a bailiff, or the place within which his jurisdiction is terminated.

BAILO, thus they stile at Constantinople the embassador of the republic of Venice, who resides at the porte. This minister, besides his political charge, acts there the part of a consul for Venice.

BAIOCCO, a copper coin, current at Rome, and throughout the whole state of the church, ten of which make a julio, and an hundred a roman crown.

BAIRAM, in the mahometan customs, a yearly festival of the Turks, which they keep after the fast of ramazan.

The mahometans have two bairams, the great and the little.

The little bairam holds for three days, and is seventy days after the first, which follows immediately the ramazan. During the bairam the people leave their work for three days, make presents to one another, and spend the time with great manifestations of joy. If the day after ramazan should prove so cloudy as to prevent the

the fight of the new moon, the bairam is put off to the next day, when it is kept, even if the moon fhould ftill be obfcured. When they celebrate this feaft, after numerous ceremonies, or rather ftrange mimicries, in their mofque, it is concluded with a folemn prayer againft the infidels, to extirpate chriftian princes, or to arm them againft one another, that they may have an opportunity to extend the borders of their law.

BAIT, in fifhing, a thing prepared to take and bring fifhes to.

Baits are of two forts, 1. The natural ones, or thofe generally living, as maggots, bobs, frogs, &c. 2. Of the fecond kind, are all artificial baits, whether fuch as imitate the living baits, or paftes of feveral compofitions and figures.

Sheep's blood and cheefe are good baits in April; the bobs dried, wafps, and bees, are for May; brown flies for June; maggots and hornets for July; fnails in Auguft; grafhoppers in September; corn and bramble-berries at the fall of the leaf: the red earth-worm is good for fmall fifh all the year round; and fmall fifh are good baits for pikes at all times.

There are feveral artificial baits for intoxicating of fowls, and yet without tainting or hurting their flefh: for the greater fort of land-fowls the bait may be made thus: take a peck, or a leffer quantity of wheat, rye, &c. with which mix two handfuls of nux vomica; boil them together till they are almoft ready to burft; ftrew them upon the land, where you defign to take the fowl, and fuch as eat thereof will be intoxicated, and lie as if dead: fmall birds may be taken, with only this alteration; inftead of wheat, or the like grain, take hemp-feed, &c.

BAITING, in falconry, is when a hawk flutters with her wings, either from perch or fift, as if it were ftriving to get away.

BAITING alfo denotes the act of fmaller, or weaker beafts attacking, and harraffing greater and ftronger ones. In this cafe, we hear of the baiting of bulls and bears by maftiff or bull dogs, with fhort nofes, that they may take the better hold. Whales are baited by a kind of fifh called *orcæ* or *killers*; ten or twelve of which will attack a young whale at once, and not leave him till he is killed.

Houghton gives us the hiftory of bull-baiting, a fport peculiar to England, and favouring, like fome others, of our antient gothicifm. Some of our countrymen are faid to be fond enough of it, to buy bulls on purpofe, and travel with them, at great charge, to all the chief towns around. Policy, in fome cafes, enjoins bull-baiting. This animal is rarely killed without being firft baited; the chaffing and exercife whereof makes his flefh tenderer and more digeftible. In reality, it difpofes it for putrefaction; fo that, unlefs taken in time, baited flefh is foon loft. But a fpirit of barbarifm had the greateft fhare in fupporting the fport: bulls are kept on purpofe, and exhibited as ftanding fpectacles for the public entertainment. The poor beafts, have not fair play; they are not only tied down to a ftake, with a collar about their necks, and a fhort rope, which gives them not above four or five yards play, but they are difarmed too, and the tips of their horns cut off, or covered with leather, to prevent their hurting the dogs. In this fport, the chief aim of the dog is to catch the bull by the nofe, and hold him down; to which end, he will even creep on his belly: the bull's aim, on the contrary, is, with equal induftry, to defend his nofe; in order to which, he thrufts it clofe to the ground, where his horns are alfo in readinefs to tofs the dog.

BAJULUS, an antient officer in the court of the greek emperors.

There were feveral degrees of bajuli, as the grand bajulus, who was preceptor to the emperor, and the fimple bajuli, who were fub-preceptors.

BAKAL a great lake, in the middle of Siberia, on the road from Mofcovy to China.

BAKER, a perfon whofe occupation or bufinefs it is to bake bread. See the articles BAKING and BREAD.

The Bakers of London make a diftinct company, the nineteenth in order.

BAKEWELL, a large market-town of Derbyfhire, about one hundred and fifty miles from London. It is a good market for lead.

BAKING, the art of preparing bread, or reducing meals of any kind, whether fimple or compound, into bread.

The various forms of baking among us may be reduced into two, the one for leavened, the other for unleavened bread; for the firft, the chief is manchet-baking, the procefs whereof is as follows:

The meal, ground and boulted, is put into a trough, and to every bufhel are poured in about three pints of warm ale, with barm and falt to feafon it; this is kneaded well together, with the hands through

through the brake; or for want thereof, with the feet, through a cloth; after which, having lain an hour to ſwell, it is moulded into manchets, which ſcotched in the middle, and pricked at top, to give room to riſe, are baked in the oven by a gentle fire.

For the ſecond, ſometimes called cheat-bread-baking, it is thus: ſome leaven (ſaved from a former batch) filled with ſalt, laid up to four, and at length diſſolved in warm water, is ſtrained through a cloth into a hole made in the middle of the heap of meal in the trough; then it is worked with ſome of the flour into a moderate conſiſtence; this is covered up with meal, where it lies all night, and in the morning the whole heap is ſtirred up, and mixed with a little warm water, barm, and ſalt, by which it is ſeaſoned, ſoftened, and brought to an even leaven: it is then kneaded, moulded, and baked, as before.

BAKING *of porcelain*. See PORCELAIN.

BALA, in geography, a market town of Merionethſhire, about ſixteen miles ſouth from Denbigh, in 3° 40′ weſt longitude and 52° 55′ north latitude.

BALÆNA, the WHALE, in zoology, a genus of fiſhes, of the order of the *plagiuri*, diſtinguiſhed by having certain laminæ, of a horny ſubſtance, in the upper jaw, which ſupply the place of teeth, and uſually no fin upon the back: to this it may be added, that the fiſtula, or aperture for the diſcharge of water, is double, and ſituated either on the forehead, in the middle of the head, or in the roſtrum. See the article WHALE.

The horny laminæ make the ſubſtance which we call whale-bone.

BALAGNA, a town of Muſcovy, in the province of Novogorod, ſituated on the river Wolga, in 45° eaſt long. and 56° 30′ north latitude.

BALAGUER, a city of Catalonia, in Spain, in 30′ eaſt long. and 41° 30′ north lat.

BALANCE, or BALLANCE. See the article BALLANCE.

BALANI, MARINI, certain multivalve ſhells, uſually growing in cluſters on the ſhells of the larger ſort of the ſea ſhell-fiſh: ſometimes they are found large, looſe, and petrified, at a great diſtance from the ſea; in which ſtate they are diſtinguiſhed by the name *balanitæ*.

The balanus is a ſea-ſhell fiſh, of an oblong figure, approaching to that of an acorn, open at the mouth or top, and compoſed of ſeveral portions, or valves, from ſix to twelve in number, not moveable or looſe, as in the other bivalve or multivalve ſhells, but fixed to one another by an intermediate ſubſtance: the animal inhabiting this ſhell is called a triton. See TRITON.

BALANUS, in anatomy, a term ſometimes uſed for the glans penis, as well as for the clitoris.

BALANUS, in pharmacy, denotes a ſuppoſitory. See the article SUPPOSITORY.

BALAUSTINE, *balauſtina*, in botany, the name by which the great double-flowered pomegranate is commonly called. See the article PUNICA.

The fruit of this ſpecies is a powerful aſtringent, and conſequently recommended in fluxes of all kinds.

BALBASTRO, a city of Arragon, in Spain, ſituated upon the river Sinca, in 15′ weſt lon. and 42° north lat.

BALBEC, a town of aſiatic Turky, ſituated at the foot of mount Libanus, in 37° 30′ eaſt long. and 33° north lat.

BALCH, a city of Uſbec Tartary, ſituated on the frontiers of Perſia, in 65° 20′ eaſt long. and 37° north lat.

BALCONY, in architecture, a projecture in the front of a houſe, or other building, ſupported by pillars, or conſoles, and encompaſſed with a baluſtrade: or it is a kind of open gallery, for people to ſtand in, to behold any public ſhow, or for taking the air in. They are uſually level with the firſt floor, and are made of wood, or iron.

BALDACHIN, or BALDAQUIN, in architecture, a building in form of a canopy, ſupported by pillars, and frequently uſed as a covering to inſulated altars. Some alſo uſe the term baldachin for the ſhell over a door.

BALDIVIA, or VALDIVIA, a ſea-port town of Chili, in ſouth America, ſituated on the ſouth ſea, in 80° weſt longit. and 40° ſouth latitude.

BALDNESS, a defect of hair, owing to the want of a ſufficient ſupply of nutricious juice, or to ſome bad quality therein. See CALVITIES, ALOPECIA, &c.

BALDOC, a market-town in Hertfordſhire, about thirty-eight miles north of London, in 15′ weſt longit. and 51° 55′ north latitude.

BALE, in commerce, is ſaid of merchandizes packed up in cloth, and corded round

round very tight, in order to keep them from breaking, or preserve them from the weather. Moſt of the merchandize capable of this kind of package, deſigned for fairs or exportation, ought to be in bales, and too much care cannot be taken in packing them, to prevent their being damaged. The bales are always to be marked and numbered, that the merchants to whom they belong, may eaſily know them.

A bale of cotton yarn is from three to four hundred weight; of raw ſilk, it is from one to four hundred; of lockram or dowlaſs either three, three and a half, or four pieces.

BALE-GOODS, among the engliſh merchants, are all ſuch as are imported or exported in bales; but the French give that name to certain hardwares, and other ſort of merchandize, which come to Paris, and are commonly made by bad workmen, of indifferent materials.

BALEARES, the antient name for the the iſlands of Majorca, Minorca, and Ivica. See the articles MAJORCA, &c.

BALI, an iſland of the Eaſt-Indies, ſituated in 114° eaſt lon. and 7° 30′ ſouth lat. This iſland, and the eaſt end of the iſland of Java, form a ſtreight about a mile over, of extremely difficult paſſage.

BALISORE, a ſmall ſea-port of the hither India, ſituated on the north-weſt part of the bay of Bengal, in 85° 15′ eaſt long. and 21° 30′ north latitude.

BALISTA, or BALLISTA. See the article BALLISTA.

BALISTES, a genus of the branchioſtegious order of fiſhes, having only one belly-fin, on the back there are ſome robuſt ſpines; the jaws are furniſhed with very large teeth, which are placed contiguous to each other, and are protended forwards, having much the appearance of thoſe in the human mouth; and in other ſpecies, of thoſe of the hog: the body and the head are compreſſed and broad.

BALIVO AMOVENDO, in law, was a writ for removing a bailiff from his office, for want of having ſufficient land in his bailiwick to anſwer the king and his people according to the ſtatute of Weſtminſter, 2 reg. Orig. 78.

BALK, among builders, is ſometimes uſed for the ſummer-beam of a houſe; ſometimes for the poles and rafters, which ſupport the roofs of barns, &c. and ſometimes for the beams uſed in making ſea-holds.

BALK, in agriculture, denotes a ridge, or bank between two furrows.

BALL, in a general ſenſe, a ſpherical and round body, whether it be ſo naturally, or turned into that figure by the hand of an artiſt: thus we ſay, a tennis-ball, foot-ball, cotton-ball, &c. The word is alſo uſed to ſignify ſome tools of ſeveral trades and arts, becauſe they bear ſome reſemblance to balls.

BALL, in the military art, comprehends all ſorts of bullets for fire arms, from the cannon to the piſtol.

Cannon-balls are made of iron, muſquet-balls, piſtol-balls, &c. are of lead. The experiment has been tried of iron balls for piſtols and fuſees, but they are juſtly rejected, not only on account of their lightneſs, which prevents them from flying ſtrait, but becauſe they are apt to furrow the barrel of the piſtol, &c. See SHOT.

BALL AND SOCKET is an inſtrument made of braſs, with a perpetual ſcrew, ſo as to move horizontally, vertically, and obliquely; and is generally uſed for the managing of ſurveying inſtruments, and aſtronomical inſtruments.

BALL *of a pendulum*, the ſame with bob. See the article BOB.

BALL, among printers. See the article PRINTING.

Puff-BALL, the engliſh name of the *lycoperdon*. See the article LYCOPERDON.

BALLAD, or BALLET, a kind of ſong, adapted to the capacity of the lower claſs of people; who being mightily taken with this ſpecies of poetry, are thereby not a little influenced in the conduct of their lives. Hence we find, that ſeditious and deſigning men never fail to ſpread ballads among the people, with a view to gain them over to their ſide.

BALLANCE, or BALANCE, in mechanics, one of the ſimple powers which ſerves to find out the equality or difference of weight in heavy bodies.

The ballance is of two kinds, antient and modern: the antient, or roman, called *ſtatera romana*, or ſteelyard, conſiſts of a lever A B (plate XXV. fig. 2. n° 1.) moveable on a center C, and ſuſpended near one of its extremities; the two arms C A, C B being kept in equilibrio by a ball A, fixed at the end of the ſhorteſt arm C A: on this the body to be weighed is ſuſpended, and its weight is meaſured by the diviſions marked on the beam, on the other ſide; where a moveable weight keeps the ballance in equilibrio. For example, if the body to be weighed, and put into the ſcale D, be in equilibrio with the weight, when this laſt is moved

to the fixth divifion on the longeft arm, then will the faid body be juft fix times the weight, when the fcale D is fufpended from the firft divifion; but if from the fecond, as in the figure referred to, it will be only triple the weight.

The modern ballance confifts of a lever, fufpended exactly by the middle, and fcales affixed to each extremity: the principle on which each is founded is the fame, and may be conceived from what follows.

The modern or common ballance being a lever that has equal arms A G, and G B (*ibid.* n° 2.) with the center of motion C commonly placed directly over G; becaufe if the center of motion was in G, equal weights fufpended from A and B, would fuftain each other in any pofition of the lever A B; but when the center of motion is above G, they only fuftain each other when the lever A B is level; and when the weight at A is but a little greater than the weight at B, the ends A and B defcend and afcend by turns, till their common center of gravity *g* fettles in the vertical line C *g*, where they fuftain each other, becaufe their center of gravity is fuftained by C. The ballance is falfe, when the arms A G and G B are unequal; and the exactnefs of this inftrument, chiefly depends upon making the friction at the center of motion C as fmall a poffible.

The roman ballance or fteelyard, is nothing but a lever of the firft kind, but whofe arms are unequal; fo that its mechanifm depends upon the fame theorem with that of the lever. See the article LEVER.

The difference between the ufe of the fcales and the fteelyard, confifts in this, that as in the former, you make ufe of a larger power, or more weight, to eftimate the weight of an heavier body; in the latter, you ufe the fame power, but give it a greater velocity with refpect to that of the weight, by applying it further from the fixed point, which will have the fame effect.

Hydroftatical BALLANCE. See the article HYDROSTATICAL-BALLANCE.

BALLANCE OF TRADE, in commerce, the equality between the value of the commodities bought of foreigners, and the value of the native productions tranfported into other nations.

It is reckoned that that nation has the advantage in the ballance of trade, which exports more of native commodities, and imports lefs of the foreign; fo that the nation grows fo much richer in bullion, as the ballance of that account amounts to, which muft be made up in bullion or money.

Among various others, the moft received methods of arriving at the knowledge whether a nation gains or lofes by foreign trade, or any branch thereof, are the following ones.

1°. A ftrict furvey muft be taken of what proportion the value of the commodities exported bears to thofe imported. If the exports exceed the imports, it is concluded that that nation is fo far in a gaining way, by the overplus imported in bullion. But this method is uncertain, by reafon of the difficulty of obtaining a true account, either of the exports or imports; as cuftomhoufe books are no rule in this cafe, by reafon of the running of goods, efpecially many fine commodities of fmall bulk, but great value; befides the various accidents which affect the value of the ftock, either fent out or brought in, as loffes at fea, *&c.*

2°. The fecond method, no lefs defective than the other, is by obferving the courfe of exchange, which if generally above the intrinfic value, or par of the coins of foreign countries, we not only lofe by fuch exchange, but the fame is a proof that we lofe by the general courfe of our trade.

3°. The third method is made from the increafe or the diminution of our trade and fhipping in general; for if thefe diminifh, the nation lofes, and *vice verfa*: this feems equally imperfect with the following.

4°. A fourth way is, by obferving the increafe and diminution of our coin and bullion.

BALLANCE of a clock or watch. See the articles CLOCK and WATCH.

BALLANCE, LIBRA, in aftronomy. See the article LIBRA.

BALLANCE-FISH, a name fometimes ufed for the zygæna, or hammer-headed fhark. See the article ZYGÆNA.

BALLANCER, in the hiftory of infects, a ftyle, or oblong body, ending in a protuberance or head, found under each wing of the two-winged flies: thefe ferve to poife the body of the fly.

BALLAST, a quantity of ftones, gravel, or fand, laid in a fhip's hold, to make her fink to a certain depth into the water, and fail upright, rendering her

her of a prodigious weight. The ballaſt is ſometimes one quarter, one third, or one half, according to the difference of the bulk of the ſhip. Flat veſſels require the moſt ballaſt. Ships are ſaid to be in ballaſt, when they have no other loading. Maſters of veſſels are obliged to declare the quantity of ballaſt they bear, and to unload it at certain places. They are prohibited unloading their ballaſt in havens, roads, *&c.* the neglect of which prohibition has ruined many excellent ports.

BALLASTAGE, or LASTAGE. See the article LASTAGE.

BALLET. See BALLAD, and BALLS.

BALLIAGE, or BAILIAGE. See the article BAILIAGE.

BALLISHANNON, a large town of the county of Donnegal, and province of Ulſter, in Ireland, ſituated about ten miles ſouth of the town of Donnegal, in 8° 30′ weſt lon. and 54° 25′ north lat.

BALLISTA, in antiquity, a military machine uſed by the antients in beſieging cities, to throw large ſtones, darts, and javelins.

It reſembled our croſs-bows, though much larger, and ſuperior in force.

From this engine, ſtones of a ſize not leſs than mill-ſtones, were thrown with ſo great violence, as to daſh whole houſes in pieces at a blow. It is deſcribed thus, a round iron cylinder was faſtened between two planks, from which reached a hollow ſquare beam, placed croſſwiſe, and faſtened with cords, to which were added ſcrews; at one end of this ſtood the engineer, who put a wooden ſhaft with a big head into the cavity of the beam: this done, two men bent the engine by drawing ſome wheels: when the top of the head was drawn to the utmoſt end of the cords, the ſhaft was driven out of the balliſta, *&c.*

BALLOON, or BALLON, in a general ſenſe, ſignifies any ſpherical hollow body, of whatever matter it be compoſed, or for whatever purpoſes it be deſigned.

Thus, with chemiſts, balloon denotes a round ſhort-necked veſſel, uſed to receive what is diſtilled by means of fire; in architecture, a round globe on the top of a pillar; and among engineers, a kind of bomb made of paſte-board, and played off in fire-works, either in the air or in the water, in imitation of a real bomb. Balloon, in the french paper trade, is a term for a quantity of paper, containing twenty-four reams. It is alſo the name of a ſort of brigantine uſed in the kingdom of Siam.

BALLOTA, or BALLOTE, in botany, a genus of the *didynamia gymnoſpermia* claſs of plants, the flower of which is monopetalous and cloven, the upper lip being erect and crenated, and the lower obtuſe and divided into three ſegments. There is no pericarpium; the cup incloſing four ovated ſeeds.

BALLOTADE, in the manege, the leap of a horſe between two pillars, or upon a ſtraight line, made with juſtneſs of time, with the aid of the hand, and the calves of the legs; and in ſuch a manner, that when his fore feet are in the air, he ſhews nothing but the ſhoes of his hinder feet, without yerking out. It differs from capriole and croupade, becauſe in the former of theſe, the horſe ſtrikes out his hinder legs with all his force, keeping them near and even; and in croupades, he draws his hinder feet under him.

BALLOTING, a method of voting at elections, *&c.* by means of little balls, uſually of different colours, and by the French called *ballotes,* which are put into a box privately.

BALLS, or BALLETS, in heraldry, a frequent bearing in coats of arms, uſually denominated according to their colours, bezants. plates, hurts, *&c.* See the article BEZANTS, *&c.*

BALLUSTER, a ſmall kind of pillar uſed for balluſtrades.

BALLUSTRADE, a ſeries or row of balluſters, joined by a rail; ſerving as well for a reſt to the elbows, as for a fence or encloſure to balconies, altars, ſtair-caſes, *&c.*

BALM, or BAUM, in botany, *meliſſa.* See the article MELISSA.

BALM, or BALSAM. See the article BALSAM.

BALNEUM, a term uſed by chemiſts to ſignify a veſſel filled with ſome matter, as ſand, water, or the like, in which another is placed that requires a more gentle heat than the naked fire. Thus *balneum arenoſum,* called alſo *balneum ſiccum,* and ſand-heat, is when the cucurbit is placed in ſand, in aſhes, or filings of ſteel. *Balneum mariæ,* or *maris,* is when the veſſel containing the ingredients to be diſtilled, *&c.* is put into a veſſel of water, which is made to boil; ſo that no greater heat than that of boiling water can be communicated to the ſubſtance to be treated. And *balneum vaporis,* or *vapo-*

vaporarium, is when two veſſels are diſpoſed in ſuch a manner, that the vapour raiſed from the water contained in the lower, heats the matter contained in the upper. See the article Bath.

BALOTADE, or Ballotade. See the article Ballotade.

BALSAM, or native balsam, an oily, reſinous, liquid ſubſtance, flowing either ſpontaneouſly, or by means of inciſion, from certain plants of ſovereign virtue in the cure of ſeveral diſorders.

There are many kinds of balſams, but the moſt remarkable are theſe. 1. Balſam or balm of gilead, called alſo balſamum judaicum, ſyriacum, e meccha, and opobalſamum; being an exſudation from the true balſamum ſyriacum rutæ folio, ſo much eſteemed in the country where it is produced, that it is accounted a rich preſent from the chief prince of Arabia fælix to the grand ſignior. In order to have it genuine, it ſhould be choſen fluid as oil, of a very pale yellow colour, perfectly tranſparent, and of a fragrant ſmell, with ſomething of the lemon or citron flavour, but not too much of it. In medicine, it opens obſtructions of the lungs, and heals eroſions from acrimony and the worſt kind of ulcerations. It is preſcribed in aſthmas, pleuriſies, and whatſoever requires expectoration; in inward bruiſes and ſores, particularly thoſe of the reins and urinary paſſages; and externally it is uſed to diſcharge and incarnate. For internal uſe, it may either be given in boluſſes, or dropped on ſugar, or finally diſſolved into an emulſion by means of the yolk of an egg. The turkiſh women uſe it as a coſmetic. 2. Balſam of peru, which is diſtinguiſhed into two ſorts, the white and black. The former, by way of eminence called the balſam of inciſion, is a liquid of a white colour, reſembling in external appearance the balm of gilead, but eaſily diſtinguiſhed from it by its ſmell. It is excellent for green wounds. The black balſam is obtained by boiling the wood of the tree which produces it. The beſt is of a darkiſh red colour, and of an admirable fragrancy. It heals, dries, and diſcharges, and is much uſed externally, not only in wounds, but in palſies, iſchiadic and rheumatic pains, and likewiſe by perfumers, on account of its excellent ſmell. 3. Balſam of tolu, is produced from a tree, a ſpecies of the pine, which grows in new Spain. It is of a deep yellowiſh colour, approaching near to red, and of a moſt delicate ſcent, much beyond any other balſam. It firſt flows from the tree of the conſiſtence of ordinary turpentine; but by keeping, we meet with it frequently ſo hard as to be brittle. Its virtues are the ſame in general with thoſe of the peruvian and gilead kinds. It is given in conſumptions and diſorders of the breaſt, ſometimes in form of pills, ſometimes of electuary; but as it has not the pungency of the other kinds, the beſt form of giving it is in emulſion diſſolved in the yolk of an egg, and ſo mixed with water. 4. Balſam of capivi, or of copaiba, is the produce of one of the *arbores ſiliquoſæ flore uniformi* of Mr. Ray. It is of a thinner conſiſtence than the common turpentine, but much more fragrant and deterſive. It paſſes away quickly by urine, and mightily cleanſes thoſe paſſages; for which reaſon it hath obtained very much in gonorrhœas and all obſtructions and ulcerations of thoſe parts. The moſt agreeable way of taking it, is either in powdered ſugar, or dropped into water. 5. Balſam of liquid amber may be juſtly reckoned among the ſimples of the balſamic kind. It drops from a tree of Mexico, called arbor ſtyracifera, upon an inciſion being made into its bark. It is a reſinous and pingous liquor, of a reddiſh yellow colour, of an acrid aromatic taſte, and of the conſiſtence of venice turpentine. Its eſſence ſtrengthens the head and nervous ſyſtem, and its oil is of ſingular efficacy, both for external and internal uſes.

Factitious or artificial balſams, are certain compoſitions chiefly of balſamic and healing ingredients, made by apothecaries in imitation of the native balſams. It would be almoſt endleſs to ſpecify all the artificial balſams which have been contrived by diſpenſatory-writers. Lemery, in his *pharmacopée univerſelle*, has ſeventy-three different ſorts, beſides many others in foreign diſpenſatories. The moſt remarkable of the London and Edinburgh diſpenſatories, are balſam of amber, of guaiacum, of locatellus, of ſulphur ſimple, or with barbadoes tar, of turpentine, vulnerary, of many virtues, anodyne of bates and guido, apoplectic, magiſterial, martiale and paralyticum. For the uſes and method of preparing the balſam of Locatellus, ſee the article Locatellus's *Balſam*.

Balſam, with chemiſts, is a name given to the ſolutions and preparations of ſome ſalts, as balſam of ſaturn, tartar, ſal-gem, &c.

Balſam

Balsam of saturn is a solution of saccharum saturni, or sugar of lead made with spirit of oil of turpentine, and digested till the matter hath gained a red tincture. Balsam, among alchemists, sometimes denotes the spirit of common salt, extracted by distillation, after placing a solution of the salt for a considerable time in horse-dung, in order to putrefy. This is said to preserve bodies the most liable to corruption.

BALSAMICS, in pharmacy, softening, restoring, healing and cleansing medicines, of gentle attenuating principles, very friendly to nature.

These medicines, on account of their fine, subtile, and volatile oil, are not only grateful and agreeable to the constitution, but act upon the fluids, as well as the solids, of human bodies; diffusing their virtues through every part, and supplying the blood and humours with a seasonable reinforcement of sulphureous, warm and ethereal particles, increasing their intestine motions, and conveying a general vigour to the vital juices.

These medicines may be used with good success, both internally and externally, in all diseases of the head, nerves, spinal marrow, stomach and heart; such as palsies, apoplexies, numbness and torpor of the senses, weakness of the memory, difficulty of hearing, excessive weakness and faintings; they are also of singular service in most disorders of the stomach, and intestines, and are exquisitely adapted to the old and infirm. See BALSAM.

BALSAMINA, in botany, a genus of the *syngenesia polygamia* class, of plants, the flower of which consists of four, five, or six petals, and its fruit is an unilocular capsule, consisting of five valves, and containing a number of roundish seeds affixed to a placenta. See the article IMPATIENS.

BALTIC-SEA, that lying between Sweden on the north, and Germany and Livonia on the south.

BALTIMORE, a town of the county of Cork, and province of Munster, in Ireland, situated about five miles north of cape Clear, in 9° 15′ west longitude, and 51° 15′ north latitude.

BAMBERG, a city of Franconia, in Germany, east longitude 10° 50′, and north latitude 50° 15′.

The bishop of Bamberg is sovereign of the city and district round it, for sixty miles in length, and forty in breadth.

BAMBOE, or BAMBOU, a plant in the Indies, which multiplies very much by its root, from which springs a branchy tuft, after the manner of the european reeds. It is of the largest kind of cane, and decreases gradually to the top, where it bears a blossom, like our reeds. The bamboe is a species of arundo. See the article ARUNDO.

BAMFF, a town of Scotland, which gives name to a county, lying between Aberdeenshire and Murrey, along the southern bank of the river Spey.

The town is situated at the mouth of the river Dovern, in 2° 5′ west longitude, and 57° 40′ north latitude.

BAMPTON, a market town of Oxfordshire, situated on the river Isis, about ten miles south-west of Oxford: west longitude 1° 35′, and north latitude 51° 40′.

BAMPTON is also the name of a market-town of Devonshire, twenty miles north of Exeter: west longitude 3° 40′, and north latitude 51° 5′.

BAN, or BANN. See the article BANN.

BAN, in commerce, a sort of smooth, fine muslin, which the English import from the East-Indies. The piece is almost a yard broad, and runs about twenty yards and an half.

BANBURY, a large borough-town in Oxfordshire, twenty miles north of Oxford: west longitude 1° 20′, and north latitude 52° 5′.

BANC, or BENCH, in law, denotes a tribunal, or judgment-seat: hence, king's banc is the same with the court of king's bench, and common banc, with that of common pleas. See the articles KING'S BENCH and COMMON PLEAS.

BANCA, an island in the East-Indies, separated from the south-east part of that of Sumatra by a very narrow channel: east lon. 105°, and south lat. 3°.

BANCALIS, a sea-port town on the east coast of Sumatra: east longitude 99°, and north latitude 2°.

It is a Dutch settlement.

BANCOCK, a city of the kingdom of Siam: east longitude 101°, north latitude 13° 30′.

BAND, in a general sense, some small, narrow ligament, wherewith any thing is bound, tied, or fastened.

BAND, in architecture, a general name for any flat, low member, or moulding, that is broad, but not very deep.

BAND *of soldiers*, in military affairs, those who fight under the same flag or ensign.

Trained BANDS. See TRAIN BANDS.

BAND *of pensioners*, are a company of forty gen-

gentlemen, who receive a yearly allowance of 100 l. for attending on his majefty on folemn occafions. See the article PENSIONER.

BAND is alfo the denomination of a military order in Spain, inftituted by Alphonfus XI. king of Caftile, for the younger fons of the nobility, who, before their admiffion, muft ferve ten years, at leaft, either in the army, or at court; and are bound to take up arms for the catholic faith againft the infidels.

BAND, in furgery, a fillet, fwathe, or piece of linen-cloth, wherewith either to cover, or furround certain parts that ftand in need of affiftance; and is, in this fenfe, the fame with what is otherwife called a bandage or roller.

BANDA, or LANTOR, the chief of the Banda-iflands in the Eaft Indies, where nutmegs grow; eaft longitude 128°, and fouth latitude 4° 30′.

BANDAGE, in furgery, a fillet, roller, or fwathe, ufed in dreffing and binding up wounds, reftraining dangerous hæmorrhages, and in joining fractured or diflocated bones.

Bandages fhould be made of ftrong linen cloth, that has been foftened by wearing. They are of different forms, according to the ufes they are defigned for. Some are common, or applicable to any part; others are proper, or applicable only to particular parts. Some again are fimple, or made up of one entire part; others compound, or compofed of feveral pieces fewed together in different manners. In plate XXV. fig. 3. N°. 3. reprefents a fimple bandage not rolled up, and is that ufed in phlebotomy; N°. 2. is another fimple bandage, rolled up at one end, and from thence called a fingle-headed bandage; thofe on the other hand are called double-headed, which are rolled up at both ends, as N°. 1.

Next to thefe come thofe bandages, which, though confifting of one entire piece, are divided at both ends almoft as far as the middle, and called by the furgeons four-headed bandages, as N°. 4. The bandage, N°. 5. is fomewhat narrower and fhorter; being divided only at one end, and perforated at the other: this is ufed in dreffings applied to the penis, or a finger. N°. 6. reprefents a double headed bandage, divided about the middle, and called the uniting bandage, as ferving to unite wounds made lengthwife. N°. 7. is the fcapular bandage, the chief ufe of which confifts in this, that in dreffing wounds of the thorax or abdomen, it is capable of fupporting another wider bandage bound round the breaft or belly. N°. 8. is a compound bandage, called the T bandage, from its refemblance to that letter; its upper part is bound round the belly, and the lower part, paffing under the body between the thighs, is tied to the upper one upon the back. This bandage is ufed for fecuring fuch dreffings as fhall be thought proper to be applied to the anus, or parts of generation.

BANDALEER, or BANDELEER, in military affairs, a large leathern belt, thrown over the right fhoulder, and hanging under the left arm; worn by the antient mufqueteers, both for the fuftaining of their fire-arms, and for the carriage of their mufquet-charges, which being put up in little wooden cafes, coated with leather, were hung, to the number of twelve, to each bandeleer.

BANDELET, or BANDLET, in architecture, any little band, or flat moulding, as that which crowns the doric architrave.

BANDER-CONGO, a fea-port town on the eaftern fide of the perfian gulph: eaft longitude 54° 50′ and north lat. 27°.

BANDERET, a general, or one of the commanders in chief of the forces.

This appellation is given to the principal commanders of the troops of the canton of Bern in Switzerland, where there are four banderets, who command all the forces of that canton.

BANDEROLL, a little flag, in form of a guidon, extended more in length than breadth, ufed to be hung out on the mafts of veffels, *&c.*

BANDITTI, a term peculiarly denoting companies of highwaymen, common in Italy and France; but fometimes alfo ufed, in a more general fenfe, for robbers, pirates, out-lawed perfons, ruffians, *&c.*

BANDLET, or BANDELET. See the article BANDELET.

BANDORA, the capital of the ifland of Salfet, or Canorin, on the weft coaft of the hither India: eaft longitude 72° 30′ and north latitude 19°.

BANDORA is alfo the name of an antient mufical inftrument, with ftrings, refembling a lute. See the article LUTE.

BANDY-LEGGED *perfons* are fuch whofe feet are diftorted, turning either inward or outward, on either fide; arifing from fome defect in the birth, or from the imprudence of the nurfe, endeavouring to make

make the child ſtand or walk before his legs were ſtrong enough to ſupport the reſt of his body.

Beſides the uſe of emollients, it is proper to apply a kind of ſtrong boots proportioned to the limb.

BANGLE EARS, an imperfection in a horſe, remedied in the following manner. Place his ears in ſuch a manner as you would have them ſtand; bind them with two little boards ſo faſt that they cannot ſtir, and then clip away all the empty wrinkled ſkin cloſe by the head.

BANGOR, a city of Carnarvonſhire, in north Wales: weſt longitude 4° 15′, and north latitude 53° 20′.

It is a biſhop's ſee, and ſituated on the ſea-ſide, about thirty miles weſt of St. Aſaph.

BANIANS, a religious ſect in the empire of the mogul, who believe a metempſychoſis, and will therefore eat no living creature, nor even kill noxious animals; but endeavour to releaſe them, when in the hands of others. See SHASTER.

The banians are ſaid to be ſo fearful of having communication with other nations, that they break their cups, if one of a different religion has drank out of them, or even touched them. 'Tis ſaid, that if they happen to touch one another, they purify and waſh themſelves before they eat, or enter their own houſes. They carry, hanging to their necks, a ſtone, called tamberane, as big as an egg, and perforated in the middle, through which run three ſtrings: this ſtone, they ſay, repreſents their great god, and upon that account, they have great reſpect ſhewn them by all the indians.

BANJAR, a river in the iſland of Borneo, in the mouth of which is a floating iſland, where the eaſt india company have a factory.

BANISHMENT, a kind of puniſhment, whereby the guilty perſon is obliged to leave the realm.

There are two kinds of baniſhment; one voluntary and upon oath, the other upon compulſion for ſome crime or offence: the former, properly called abjuration, is now ceaſed; the latter is chiefly enjoined by judgment of parliament, or other courts of juſtice.

By *magna charta*, none ſhall be outlawed, or baniſhed his country, but by lawful judgment of his peers, according to the law of the land, 9 Hen. III. 29.

BANK, in commerce, a common repoſitory, where many perſons agree to keep their money, to be always ready at their call or direction: or certain ſocieties or communities, who take the charge of other people's money, either to improve it, or keep it ſecure.

There are banks of various kinds, and different in the nature of their conſtitutions and eſtabliſhments: ſome are inſtituted wholly on the public account, and put under the direction of the magiſtrates, as the famous bank of Amſterdam, where the money depoſited therein ſhall be always kept for the uſe of the proprietors, and ſhall never be let out for profit or advantage.

Payments made by aſſignments upon this bank, are valued from 3 to 6 *per cent.* above the payment of the money in ſpecie, ariſing from an opinion that the proprietors entertain of the equity of its adminiſtration; for judging themſelves ſecure, that their money lies always ready at hand, they ſeldom draw out large ſums, but make their mutual payments by transferring the ſums from one man's account to another.

A ſecond ſort of bank, is ſuch as conſiſts of a company of monied men, who being duly eſtabliſhed, and incorporated by the laws of their country, agree to depoſite a conſiderable fund, or joint ſtock, to be employed for the uſe of the ſociety; as lending money upon good ſecurity, buying and ſelling bullion, gold and ſilver, diſcounting bills of exchange, *&c.*

A third ſort, is the banks of private men, or partnerſhips, who deal in the ſame way as the former, upon their own ſingle ſtock or credit; and ſuch are the Lombard-ſtreet, or other bankers, as they are called.

There are public banks eſtabliſhed in moſt of the trading cities of Europe, as in Venice, London, Paris, Amſterdam, Hamburgh, *&c.* The bank of Venice is the moſt antient. It is eſtabliſhed by a ſolemn edict of the commonwealth, which enacts, that all payments of wholeſale merchandize, or letters of exchange, ſhall be in bank notes; that all debtors ſhall be obliged to carry their money to the bank, and all creditors receive their money from the bank; ſo that payments are performed by a ſimple transfer from the one perſon to the other. In matters of retail, effective payments are ſometimes made, which do not diminiſh, but rather augment the ſtock, by reaſon of the liberty of withdrawing their money at pleaſure, *&c.*

BANK, in natural hiſtory, denotes an elevation of the ground, or bottom of the ſea,

fea, fo as fometimes to furmount the furface of the water, or, at leaft, to leave the water fo fhallow, as ufually not to allow a veffel to remain afloat over it.

In this fenfe, bank amounts to much the fame with flat, fhoal, &c. There are banks of fand, and others of ftone, called alfo fhelves, or rocks. In the north fea, they alfo fpeak of banks of ice, which are large pieces of that matter floating.

A long narrow bank is fometimes called a *rib*.

The bank abfolutely fo called, or the main bank, or great bank, denotes that of Newfoundland, the fcene of the codfifhery.

It is called the great bank, not only by reafon of its vaft extent, being, according to the Englifh computation, two hundred miles long, and, according to the French, one hundred leagues, or three hundred miles; but alfo on account of feveral leffer banks near it, where cod are alfo caught.

BANK, in veffels which go with oars, is ufed for the bench where the rowers are feated; popularly called, by our feamen, the *thaught*.

In this fenfe, we read of banks of gallies, of galeaffes, of galliottes, of brigantines, and the like.

The Venetian gondolas have no banks; for the watermen row ftanding.

The common gallies have twenty-five banks, that is, twenty-five on each fide, in all fifty banks, with one oar to each bank, and four or five men to each oar.

The galeaffes have thirty two banks on a fide, and fix or feven rowers to a bank.

BANK alfo denotes an elevation of earth, ftones, ftakes, or other materials, in form of a wall, or caufeway, to ftop the waters, and prevent inundations.

BANK is alfo ufed, in feveral games, for the ftock or fund of him who undertakes the game.

BANK *at Baffet*, a fum of money laid down by the tailleur, before the gamefters, to anfwer all the winning cards that fhall turn up in his courfe of dealing.

BANKAFALET, a game at cards, which being cut into as many heaps as there are players, every man lays as much money on his own card as he pleafes; and the dealer wins or lofes as many as his card is fuperior or inferior to thofe of the other gamefters.

The beft card is the ace of diamonds; the next to it, the ace of hearts; then the ace of clubs; and, laftly, the ace of fpades; and fo of the reft of thefe fuits in order, according to their degree.

The cheat lies, in fecuring an ace, or any other fure winning card; which are fomehow marked, that the fharper may know them.

BANKER, a perfon who traffics and negotiates in money; who receives and remits money from place to place, by commiffion from correfpondents, or by means of bills or letters of exchange.

In France, it is not requifite that a man be a merchant, in order to carry on banking; for that trade is permitted to all forts of perfons, even to foreigners, fo far as relates to foreign banking, or dealing by exchange.

In Italy, the trade of a banker does not derogate from nobility, which is the reafon why moft of the younger fons of the quality apply themfelves to that employment, in order to fupport their families.

The monied goldfmiths, in the reign of king Charles the fecond, firft acquired this name. See the article BANK.

The Romans had two forts of bankers, whofe office was much more extenfive than that of the bankers among us; theirs being that of public affairs, in whom were united the functions of a broker, agent, banker, and notary, managing the exchange, taking in money, affifting in buying and felling, and drawing the writings neceffary on all thefe occafions.

BANKER, in bricklaying, a piece of timber whereon they cut the bricks.

The banker is fix feet long, or more, according to the number of men to work at it, and nine or ten inches fquare; it is to be laid on two piers of timber, three feet high from the floor they ftand on.

BANKING, the making of banks to oppofe the force of the fea, rivers, or the like, and fecuring the land from being overflowed thereby.

BANKING is more particularly applied to the keeping a bank, or the employment of a banker.

BANKISH, a province of the mogul's dominions, in the north part of the hither India, lying fouth-weft of the province of Caffimere.

BANKRUPT, any perfon, either man or woman, that by trading hath gotten other perfons goods into his or her hands, and concealeth himfelf from his creditors.

It is not buying or felling of lands, but of perfonal things, that will make a perfon

ſon liable to be a bankrupt; nor is it buying only, nor ſelling only, but both. Every one that gets his livelihood by buying and ſelling in trade, may fall under a ſtate of bankruptcy upon his failing: but adventurers in the Eaſt-India company, members of the bank of England, or of the South-ſea company, ſhall not be adjudged bankrupts, in reſpect of their ſtock: alſo no perſon concerned as receiver-general of the taxes, *&c.* ſhall be a bankrupt. If a merchant gives over trade, and ſome years after becomes not ſolvent for money owed while a merchant, he is a bankrupt; but if for new debts, or old debts continued on new ſecurity, it is otherwiſe.

BANKRUPTCY, the failure, abſconding, and relinquiſhing of traffic in a merchant, a banker, or any other trader. See the article BANKRUPT.

The French make this difference between a bankruptcy and a failure, that the firſt is ſuppoſed voluntary and fraudulent, and the latter conſtrained and neceſſary, by means of accidents, *&c.* A failing, breaking, or ſtopping of payment, diminiſhes the merchant's credit, but does not note him with infamy, as bankruptcy does.

When a merchant fails to appear at the exchange, without apparent reaſon, it is called a failure of preſence; the bankruptcy becomes open from the day he abſconds, or the ſeal is affixed to his effects.

Commiſſion of BANKRUPTCY. See the article COMMISSION.

BANN, or BAN, *bannum*, or *bannus*, in the feudal law, a ſolemn proclamation, or publication of any thing. Hence the cuſtom of aſking, or bans, before marriage. See the article MARRIAGE.

BANN, in military affairs, a proclamation made in the army, by beat of drum, ſound of trumpet, *&c.* requiring the ſtrict obſervance of diſcipline, either for the declaring a new officer, or puniſhing an offender.

BANN *of the empire*, an imperial proſcription, being a judicial puniſhment, wherewith ſuch as are acceſſary to diſturbing the public peace, are judged unworthy of the immunities and protection of the empire, and are out-lawed or baniſhed, *&c.*

BANNER denotes either a ſquare flag, or the principal ſtandard belonging to a prince.

We find a multiplicity of opinions concerning the etymology of the word banner; ſome deriving it from the latin *bandum*, a band or flag; others, from the word bann, to ſummons the vaſſals to appear in arms; others, again, from the german *ban*, a field or tenement, becauſe landed men alone were allowed a banner; and, finally, there are ſome who think it is a corruption of *panniere*, from *pannus*, cloth, becauſe banners were originally made of cloth.

BANNERET, an antient order of knights, or feudal lords, who poſſeſſing ſeveral large fees, led their vaſſals to battle under their own flag, when ſummoned thereto by the king.

This order is certainly moſt honourable, as it never was conferred but upon ſome heroic action performed in the field. Antiently there being but two kinds of knights, great and little, the firſt were called bannerets, the ſecond bachelors; the firſt compoſed the upper, the ſecond the middle nobility.

In France, they are ſaid to tranſmit their degree to their poſterity; but in England, it dies with them. We have had none of this order created in England, ſince the time of king Charles the firſt; ſo that this order is now become extinct among us.

The form of the banneret's creation was this; on a day of battle, the candidate preſented his flag to the king, or general, who cutting off the train, or ſkirt thereof, and making it a ſquare, returned it again; the proper banner of bannerets, who, from hence, are ſometimes called knights of the ſquare flag.

BANNISTERIA, in botany, a diſtinct genus of plants, according to Linnæus; but accounted only a ſpecies of clematis by other botaniſts.

It belongs to the *decandria-trigynia* claſs; its flower conſiſts of five very large, orbicular petals; and its fruit is compoſed of three unilocular capſules, running into long alæ.

BANNIMUS, the form of expulſion of any member from the univerſity of Oxford, by affixing the ſentence up in ſome public place, as a denunciation of it.

BANNOCK, a kind of oat-cake, baked in the embers, or on a ſtone placed before the fire; it is common in the northern parts of the kingdom.

BANQUET, a feaſt or entertainment, where people regale themſelves with pleaſant foods, or fruits. It ſignifies alſo a little bank, a raiſed way.

BANQUET, in the manege, that ſmall part of the branch of a bridle that is under the

the eye, which being rounded like a ſmall rod, gathers and joins the extremities of the bitt to the branch, and that in ſuch a manner, that the banquet is not ſeen, but covered by the cope, or that part of the bitt that is next the branch.

BANQUET-LINE, an imaginary line drawn, in making a bitt, along the banquet, and prolonged up or down, to adjuſt the deſigned force or weakneſs of the branch, in order to make it ſtiff or eaſy.

BANQUET, or BANQUETTE, in fortification, a little foot bank, or elevation of earth, forming a path, which runs along the inſide of a parapet, upon which the muſqueteers get up, in order to diſcover the counterſcarp, or to fire on the enemy in the moat, or in the covered-way.

BANQUETTING-ROOM, or HOUSE. The antient Romans ſupped in the atrium, or veſtibule, of their houſes; but, in aftertimes, magnificent ſaloons, or banquetting houſes, were built, for the more commodious and ſplendid entertainment of their gueſts. Lucullus had ſeveral of theſe, each diſtinguiſhed by the name of ſome god; and there was a particular rate of expence appropriated to each. Plutarch relates with what magnificence he entertained Cicero and Pompey, who went with deſign to ſurprize him, by telling only a ſlave who waited, that the cloth ſhould be laid in the Apollo. The emperor Claudius, among others, had a ſplendid banquetting-room, named Mercury. But every thing of this kind was outdone by the luſtre of that celebrated banquetting-houſe of Nero, called *domus aurea*; which, by the circular motion of its partitions, and ceilings, imitated the revolution of the heavens, and repreſented the different ſeaſons of the year, which changed at every ſervice, and ſhowered down flowers, eſſences, and perfumes, on the gueſts. Heliogabulus, nevertheleſs, is ſaid to have improved as much upon Nero, as the latter had done on Lucullus.

BANSTICKLE, in ichthyology, the ſame with the gaſteroſteous, or prickle back. See the article GASTEROSTEOUS.

BANTAM, the capital of a large kingdom, and a port town of great trade, ſituated on the north-weſt coaſt of the iſland of Java, in 105° eaſt longitude, and 6° 30′ ſouth latitude.

BANTAM-WORK, a kind of painted or carved work, reſembling that of japan, only more gaudy.

Bantam-work is of leſs value among connoiſſeurs, though ſometimes preferred by the unſkilful, to the true japan work. Formerly it was in more uſe, and eſteem, than at preſent, and the imitation of it much practiſed by our japanners.

There are two ſorts of Bantam, as well as of japan-work; as, in the latter, ſome are flat, lying even with the black, and others high or emboſſed, ſo, in bantam-work, ſome is flat, and others in-cut, or carved into the wood, as we find in many large ſcreens; with this difference, that the japan artiſts work chiefly in gold and other metals, and the bantam generally in colours, with a ſmall ſprinkling of gold here and there.

For the flat bantam-work, it is done in colours, mixed with gum-water, proper for the thing deſigned to be imitated. For the carved, or in-cut kind, the method of performing it is thus deſcribed by an ingenious artiſt. 1. The wood is to be primed with whiting and ſize, ſo often till the primer lie near a quarter of an inch thick; then it is to be water-plained, *i. e.* rubbed with a fine wet cloth, and, ſome time after, bruſhed very ſmooth, the blacks laid on, varniſhed up with a good body, and poliſhed well, though with a gentle hand. This done, the deſign is to be traced out with vermillion, and gum-water, exactly in the manner wherein it is intended to be cut; the figures, trees, buildings, &c. in their due proportions. Then the graver is applied, with other tools of proper ſhapes, differing according to the workman's fancy. With theſe he cuts deep or ſhallow, as is found convenient, but never deeper than the whiting lies; the wood being never to feel the edge of the inſtrument. Lines, or parts of the black, are ſtill to be left, for the draperies and other-out-lines, and for the diſtinction of one thing from another; the rule being to cut where the white is, and leave the black untouched. The carving being finiſhed, they take to the pencil, with which the colours are laid into the cut-work. After this, the gold is to be laid in theſe places which the deſign requires; for which purpoſe, a ſtrong, thick gum-arabic water is taken, and laid with a pencil on the work; and, while this remains wet, leaf-gold is cut with a ſharp ſmooth-edged knife, in little pieces, ſhaped to the bigneſs and figure of the places where they are to be laid. Theſe being taken up with a little cotton, they dab them with the ſame cloſe to the gum-water, which affords a rich

luſtre. The work thus finiſhed, they clear up the black with oil, taking care not to touch the colours. The European workmen, in lieu of leaf-gold, ordinarily uſe braſs-duſt, which is leſs bright and beautiful.

BANTRY, a town of Ireland, ſituated on a bay of the ſame name, in the county of Cork, and province of Munſter: weſt longitude 9° 20′, north latitude 51° 30′.

BAPAUME, a fortified town of the french Netherlands, about twelve miles ſouth-eaſt of Arras: eaſt longitude 3°, north latitude 50° 10′.

BAPTISM, in matters of religion, the ceremony of waſhing; or a ſacrament, by which a perſon is initiated into the chriſtian church.

Grotius is of opinion, that baptiſm had its original from the time of the deluge, after which he thinks it was inſtituted in memory of the world's having been purged by water: and ſome think, that it was added to circumciſion, ſoon after the ſamaritan ſchiſm, as a mark of diſtinction to the orthodox Jews. However this may be, it is generally agreed on, that the Jews practiſed this ceremony on their proſelytes after circumciſion, long before the coming of Jeſus Chriſt. For the matter of baptiſm, any natural water is held ſufficient, but nothing elſe is allowed. In the primitive times, the ceremony was performed by immerſion, as it is to this day in the oriental churches, agreeably to the original ſignification of the word, which means dipping, or plunging. The practice of the weſtern churches is to ſprinkle the water upon the head or the face of the perſon to be baptized, except the church of Milan, in whoſe ritual it is ordered that the head of the infant be plunged three times into the water. A trine immerſion was uſed firſt, and continued for a long time: this was either to ſignify the three days our Saviour lay in the grave, or the three perſons in the trinity: but it was afterwards laid aſide, becauſe the arians uſed it. There are abundance of ceremonies delivered by eccleſiaſtical writers, as uſed in baptiſm, which are now laid aſide, tho' there are not wanting thoſe who contend for their re-admiſſion. It appears that in the primitive times, none were baptized but adults, though ſeveral learned men contend, that infants were admitted to this ſacrament. Formerly there were great diſputes whether the baptiſm of heretics was valid; the general opinion ran for the affirmative, provided it was conferred in the name of the trinity; and therefore they allowed that given by laymen, or even by women, in caſe of neceſſity.

Divines diſtinguiſh three ſorts of baptiſm, 1. Water-baptiſm, or that already mentioned. 2. Baptiſm of fire, which is the perfect love of God, joined to an earneſt deſire to be baptized, called alſo the baptiſm of the Holy Ghoſt. 3. Baptiſm of blood, which is the martyrdom of a catechumen.

Baptism, in the ſea-language, a ceremony in long voyages on board merchant ſhips, practiſed both on perſons and veſſels, who paſs the tropic, or line, for the firſt time. The baptizing the veſſels is ſimple, and conſiſts only in waſhing them throughout with ſea-water; that of the paſſengers is more myſterious. The oldeſt of the crew, that has paſt the tropic or line, comes with his face blacked, a groteſque cap on his head, and ſome ſea-book in his hand, followed by the reſt of the ſeamen dreſſed like himſelf, each having ſome kitchen-utenſil in his hand, with drums beating. He places himſelf on a ſeat on the deck, at the foot of the main-maſt. At the tribunal of this mock magiſtrate, each paſſenger not yet initiated, ſwears he will take care the ſame ceremony be obſerved, whenever he is in the like circumſtances: then by giving a little money by way of gratification, he is diſcharged with a little ſprinkling of water, otherwiſe he is heartily drenched with ſtreams of water, poured upon him; and the ſhip-boys are incloſed in a cage, and ducked at diſcretion.

The ſea-men, on the baptizing a ſhip, pretend to a right of cutting off the beak-head, unleſs redeemed by the captain.

BAPTISMAL, ſomething belonging to baptiſm; thus, we ſay, baptiſmal vow, fonts, preſents, *&c.*

BAPTISTS, in church-hiſtory, the name by which the anabaptiſts love to diſtinguiſh themſelves. See Anabaptists.

BAPTISTERY, in eccleſiaſtical writers, a place in which the ceremony of baptiſm is performed. In the antient church, it was one of the *exedræ* or buildings, diſtinct from the church itſelf, and conſiſted of a porch or anti-room, where the perſons to be baptized made their confeſſion of faith; and an inner room where the ceremony of baptiſm was performed. Thus it continued till the ſixth century, when the baptiſteries began to be taken into

into the church-porch ; and afterwards into the church itfelf. It is an obferva-tion of fome learned men, that antiently there was but one baptiftery in a city, and that at the bifhop's church ; and that afterwards they were fet up in parifh-churches, with the fpecial allowance how-ever of the bifhop.

BAR, in a general fenfe, denotes a flender piece of wood, or iron, for keeping things clofe together.

BAR, in courts of juftice, an inclofure made with a ftrong partition of timber, where the council are placed to plead caufes. It is alfo applied to the benches, where the lawyers or advocates are feated, be-caufe antiently there was a bar to feparate the pleaders from the attornies and others. Hence our lawyers, who are call-ed to the bar, or licenced to plead, are termed barrifters, an appellation equiva-lent to licentiate in other countries.

BAR, in law, a plea of a defendant, which is faid to be fufficient to deftroy the plain-tiff's action. It is divided into bar fpe-cial, bar to common intendment, bar tem-poral, and bar perpetual. Bar fpecial, falls out upon fome fpecial circumftances of the cafe in queftion, as where an exe-cutor being fued for his teftator's debt, pleads that he had no goods in his hands at the day on which the writ was fued out. Bar to common intendment, is a general bar, which commonly difables the plaintiff's declaration. Bar tempo-rary is fuch as is good for the prefent, but may afterwards fail ; and bar perpetual is that which overthrows the plaintiff's action for ever. In perfonal actions, once barred, and ever fo, is the general rule, but it is intended, where a bar is to the right of the caufe, not where a wrong ac-tion is brought.

BAR, in heraldry, an ordinary in form of the feffe, but much lefs.

It differs from the feffe only in its narrow-nefs, and in this, that the bar may be placed in any part of the field, whereas the feffe is confined to a fingle place. See plate XXVI. fig. 3.

Bar-gemel, that is a double bar, called by the French *jumelles*, and by the latin wri-ters *jugariæ fafciolæ* and *juftitiæ bijuges*, is a diminutive of the feffe. See plate XXVI. fig. 4. and the article FESSE.

BAR, in the manege, the higheft part of that place of a horfe's mouth, fituated between the grinders and tufhes ; fo that the part of the mouth, which lies under, and at the fide of the bars, retains the name of the gum. A horfe with fenfible bars has a fine light mouth, with an even and firm appui. See the article APPUI. A horfe with round hard bars muft have a bitt that will rouze him, that is, one that does not bend, to give room to the tongue in the middle.

Thefe are very defperate bars, which have been broke and cicatrized, and by that means become infenfible. A horfe with a fine mouth has his bars fharp, and edged like thofe of a barbary horfe.

BAR, in mufic, a ftroke drawn perpendicu-larly acrofs the lines of a piece of mufic, including between each two, a certain quantity or meafure of time, which is va-rious as the time of the mufic is either triple or common. In common time, be-tween each two bars is included the mea-fure of four crotchets ; in triple, three. The principal ufe of bars is to regulate the beating of time, in a concert. See the articles TIME and MEASURE.

BAR, in hydrography, denotes a bank of fand, or other matter, whereby the mouth of a river is in a manner choaked up. The term bar is alfo ufed for the ftrong beam, wherewith the entrance of an har-bour is fecured : this is more commonly called boom.

BAR, BARRA, in commerce. See BARRA.

BAR, or BAR-LE-DUC, in geography, a dutchy belonging to France, lying north-weft of Lorrain, on both fides the river Maefe, whereof Bar-le-duc is the prin-cipal town : eaft longitude 5° 15', and north latitude 48° 40'.

BAR is alfo a town of Podolia, in Po-land, fituated in 28° eaft longitude, and 48° 20' north latitude.

BAR-MASTER, among miners, the per-fon who keeps the gage, or difh for mea-furing the ore.

BAR-SHOT. See the article SHOT.

BARACKS, or BARRACKS. See the ar-ticle BARRACKS.

BARACOA, a town on the north-eaft part of the ifland of Cuba in north Ame-rica, in 76° weft long. and 21° north lat.

BARALIPTON, among logicians, a term denoting the firft indirect mode of the firft figure of fyllogifm. A fyllogifm in ba-ralipton, is when the two firft propofi-tions are general, and the third particu-lar, the middle term being the fubject in the firft propofition, and the predicate in the fecond. Thus,

BA Every evil ought to be feared :
RA Every violent paffion is an evil ;
LIP Therefore fomething that ought to be feared is a violent paffion.

BARALLOTS, *baralotti*, in church-hifto-ry,

ry, a fect of heretics at Bologna in Italy, who had all things in common, even their wives and children.

Their facility in complying with all manner of debauchery, made them get the name *obedientes*, compliers.

BARANCA, a port-town of Terra Firma, in fouth America; fituated about thirty miles up the river Grande, in 75° 30′ weft longit. and 11° north latit.

BARANGI, officers among the Greeks of the lower Empire. Cujas calls them in latin *protectores*, and others give them the name of *fecurigeri*. It was their bufinefs to keep the keys of the city gates, where the emperor refided.

Codinus, and others believe they were englifhmen, and that they came from an ifland called Thule.

BARANWAHR, a town of lower Hungary, not far from the Danube, in 20° eaft longitude, and 46° 20′ north latitude.

BARAPICKLET, bread made of fine flour, and kneaded up with barm, which makes it very light and fpungy. Its form is round, about a hand breadth.

BARATHRUM, in antiquity, a deep dark pit at Athens, into which condemned perfons were caft headlong. It had fharp fpikes at the top, that no man might efcape out, and others at the bottom to pierce and torment fuch as were caft in.

BARB, or BARBE, in commerce. See the article BARBE.

BARBA, BEARD, in botany, a word ufed in compofition with others for feveral plants: thus, *barba aron* denotes the fedum, or common houfe-leek; *barba capræ*, the aruncus of Linnæus. See the articles SEDUM and ARUNCUS.

BARBACAN, or BARBICAN, an outer defence, or fortification to a city or caftle, ufed efpecially as a fence to the city, or walls; alfo, an aperture made in the walls of a fortrefs, to fire through upon the enemy.

BARBACAN is alfo ufed to denote a fort at the entrance of a bridge, or the outlet of a city, having a double wall with towers.

BARBACAN, in architecture, a canal, or opening left in the wall, for water to come in and go out, when buildings are erected in places liable to be overflowed, or to drain off the water from a terras, or the like.

BARBADOES, one of the britifh caribbee iflands, lying eaftward of all the reft, in 59° 30′ weft longit. and 13° north lat. being only twenty-five miles in length, and about fifteen in breadth.

BARBADOES-TAR, a mineral fluid of the nature of the thicker fluid bitumens, of a naufeous, bitterifh tafte, very ftrong and difagreeable fmell, found in many parts of America trickling down the fides of the mountains, and fometimes floating on the furface of the waters. It has been greatly recommended in coughs, and other diforders of the breaft and lungs.

BARBARA, among logicians, the firft mode of the firft figure of fyllogifms.

A fyllogifm in barbara, is one whereof all the propofitions are univerfal, and affirmative; the middle term being the fubject of the firft propofition, and attribute in the fecond. For example,

BAR Every wicked man is miferable;
BA All tyrants are wicked men;
RA Therefore all tyrants are miferable.

BARBARIAN, a name given by the antient Greeks and Romans, to all who were not of their own country, or were not inftituted in their language, manners and cuftoms.

In this fenfe the word fignified with them no more than foreigner, not fignifying, as among us, a wild, rude, or uncivilized perfon.

BARBARISM, in a general fenfe, a rudenefs of language or behaviour.

BARBARISM, in grammar, an offence againft the purity of ftile or language; or an ungrammatical way of fpeaking or writing, or contrary to the true idiom of any particular language.

BARBARY, a large tract of Africa, extending along the Mediterranean fea, from 2° weft longitude to 30° eaft longitude, that is, from the river Mulvia, which feparates it from Morocco to Egypt.

It comprehends the countries of Algiers Tunis, Tripoli, and Barca.

BARBE, in commerce, a barbary horfe, greatly efteemed for its beauty, ftrength, and fwiftnefs. Barbes are commonly of a flim fhape, and have very thin legs; they retain their vigour to the laft, and are therefore much prized for ftallions. They are ufed both for the faddle and the coach. It is reported that they will outrun an oftrich, and that fome of them are fold for a thoufand ducats, or one hundred camels; they are fed with camel's milk fparingly, and their genealogy is carefully preferved.

BARBE, in the military art: to fire in barbe, means to fire the cannon over the parapet, inftead of firing through the embraffures; in which cafe the parapet muft not be above three feet and a half high.

BARBE, or BARDE, is an old word, denoting

noting the armour of the horses of the antient knights and soldiers, who were accoutered at all points. It is said to be an armour of iron and leather, wherewith the neck, breast and shoulders of the horse were covered.

BARBE, in geography, a town of new Biscay in Mexico; situated in 110° west longitude, and 26° north latitude.

BARBED, in a general sense, bearded like a fish-hook, set with barbes, also shaved or trimmed.

BARBED, and CRESTED, in heraldry, an appellation given to the combs and gills of a cock, when particularized for being of a different tincture from the body.

A barbed cross, is a cross the extremities whereof are like the barbed irons used for striking of fish. See plate XXVI. fig. 1.

BARBEL, *barbus*, in ichthyology, a species of cyprinus, with the upper jaw longest, four cirri or beards, and seven bones in the pinna ani.

BARBELICOTÆ, in church-history, a sect of gnostics, who affirmed that an immortal Eon had commerce with a virgin called Barbeloth, to whom he granted successively the gift of prophecy, incorruptibility, and eternal life.

Their ceremonies were not less abominable than their doctrine absurd.

BARBER, one who makes a trade of shaving, or trimming, the beards of other men, for money.

BARBERINO, a town of Tuscany in Italy, situated upon the river Siera, in 11° east longitude, and 44° 5′ north latitude.

BARBERRY-BUSH, BERBERIS, in botany. See the article BERBERIS.

BARBICAN, or BARBACAN. See the article BARBACAN.

BARBLES, or BARBS, in farriery, the knots or superfluous flesh, that grow up in the channels of a horse's mouth, that is, in the intervals that separate the bars, and lie under the tongue.

BARBUDA, one of the british caribbee islands, about twenty miles long, and twelve broad, in 61° west longitude, and 18° north latitude.

BARBUS, the BARBEL. See BARBEL.

BARCA, a country lying on the Mediterranean, between Tripoli and Egypt; a barren desart for the most part.

BARCALON, an appellation given to the prime minister of the king of Siam. The barcalon has in his department every thing relating to commerce, both at home and abroad. He is likewise super-intendant of the king's magazines.

BARCELONA, the chief city of Catalonia, in Spain. It is situated in a large plain along the shore of the Mediterranean; being divided into the new and old town, separated from each other by a wall and ditch: east longitude 2°, and north latitude 41° 20′.

BARCELONETTA, a town of Piedmont, now subject to France: east longitude 6° 40′, and north latitude 44° 35′.

BARCELOR, or BASSELOR, a port-town on the coast of Malabar, in 74° 15′ east longitude, and north latitude 13° 30′.

BARCELOS, a town of the province of Entre-Minho-Duero, in Portugal, about thirty miles north of Porto, in 9° 15′ west longitude, and 41° 20′ north latitude.

BARD, a poet among the antient Gauls and Britons, who celebrated the praises of heroes, with a view to inculcate virtue, and sometimes to terminate a difference between two armies at the point of engagement. It is disputed wherein the bards differed from the druids; some pretend that these were the priests and philosophers of the nation, and that those were only the poets and historians; but it is more probable that druid was a general word, comprehending the priests, the judges, the instructors of youth, and the bards or poets. See the article DRUID.

The bards were not only the poets but the genealogists, biographers, and historians of those countries and ages. The genealogical sonnets of the irish bards are still the chief foundations of the antient history of Ireland. It was customary for the bards to sing these compositions in the presence of their nobles, and at their chief festivals and solemnities. In the Highlands of Scotland there are bards still in being, and considerable remains of many of the compositions of the old british bards still preserved; but the most genuine, intire, and valuable remains of the works of the antient bards, and perhaps the noblest specimen of uncultivated genius, if not the most sublime fragments of antient poetry now extant, are the poems of Ossian the son of Fingal, a king of the Highlands, who flourished in the second or third century, lately collected by Mr. Mac-Pherson, and by him translated from the Erse or Gallic language into English.

BARDELLE, in the manege, a saddle made in the form of a great saddle, but only of cloth stuffed with straw, and tied tight down with packthread, without either leather, wood, or iron. In Italy they trot their colts with such saddles.

BARDESANISTS, in church-hiftory, chriftian heretics of the fecond century, who maintained that the devil was a felf-exiftent independent being; that Jefus Chrift was not born of a woman, but brought his body with him from heaven; and denied the refurrection of the body.

BARDEWICK, a town of lower Saxony in Germany, about feven miles north of Lunenburg.

It is fubject to the elector of Hanover, and fituated in 10° 6′ eaft longitude, and 53° 40′ north latitude.

BARDS, BARDI. See the article BARD.

BARDS, in the art of cookery, broad flices of bacon, with which pullets, capons, pigeons, &c. are fometimes covered, before they are roafted, baked, or otherwife dreffed.

BARDT, a port-town of Pomerania, in Germany: it is fubject to Sweden, and fituated in 13° 20′ eaft longitude, and 54° 20′ north latitude.

BARE, in a general fenfe, denotes fomething not cloathed or covered: thus, we fay, the bare-footed carmelites, trinitarians, &c. See CARMELITES.

BAR-FEE, a fee of twenty-pence which every prifoner acquitted of felony, pays to the gaoler.

BARFLEUR, a town and cape of Normandy, in France, about twelve miles eaft of Cherburg: weft longitude 1° 15′ and north latitude 49° 47′.

BARGAIN, in commerce, a contract or agreement in buying and felling. Hence, to buy a good bargain is to buy cheap.

Bargain is alfo an agreement to give a certain price, and there are three things requifite to make it complete and perfect. 1. The merchandize fold. 2. The price. 3. The mutual agreement or confent.

The merchandize fold ought to be certain, the price of the thing fold fhould be paid in current money, otherwife it would be an exchange; and the confent ought to be equally free, on both fides, from error and violence. If then there happens to be an error in the fubftance of the thing bought, it makes the bargain void; but if it lies only in the quality of the thing fold, it does not diffolve the bargain, provided there be no voluntary fraud on the fide of the feller. Thus, if I defign to buy pewter, and inftead of that, the perfon fells me lead, the fale cannot ftand good, becaufe I was impofed upon in the very fubftance of the thing I wanted to buy. But if I defigned to buy a clock that went true, and it does not prove fo, the bargain ought to ftand, becaufe I was deceived in the qualities only of the thing fold to me.

A bargain and fale of lands, &c. in fee, muft, according to our law, be in writing indented and inrolled, either in one of the courts at Weftminfter, or in the county where the lands lie, before the cuftos rotulorum, and juftices of peace. A warrant and covenant may be inferted in a bargain and fale, but the deed is good without any fuch addition; and if it be made for money and natural affection, the eftate will pafs, though you do not inrol it.

BARGE, in naval affairs, a boat of ftate and pleafure, adorned with various ornaments, having bales and tilts, and feats covered with cufhions and carpets, and benches for many oars; as a company's barge, an admiral's barge, &c. It is alfo the name of a flat-bottomed veffel employed for carrying goods in a navigable river, as thofe upon the river Thames, called weft country barges.

BARGE-COUPLES, in architecture, a beam morticed into another, to ftrengthen the building.

BARGE-COURSE, with bricklayers, a term ufed for that part of the tiling which projects over without the principal rafters, in all forts of buildings, where there is either a gable or a kirken-head.

BARILLIA, a kind of fpanifh potafh, ufed in the glafs trade.

BARING *of trees*, in agriculture, the taking away fome of the earth about the roots, that the winter-rain and fnow-water may penetrate further into the roots. This is frequently practifed in autumn.

BARK, *cortex*, in the anatomy of plants, the exterior part of trees, correfponding to the fkin of an animal.

The bark may be divided into the outward fkin, or cuticle; and the inner or cortical fubftance. The outward fkin, or cuticle, feems to derive its origin from the inner or cortical fubftance, and to be nothing more than the old bark dried and fhrivelled up, being fupplanted yearly by a new one, after the fame manner as a fnake cafts her fkin. It is compofed of little bladders, or veficles horizontally placed, fo as to form a ring; among which are alfo intermixed, more or lefs, feveral parallel woody fibres, or fap veffels. The inner fubftance confifts, 1. Of feveral enfoldments of woody fibres, interwoven in the manner of a net, and wrapping over each other like the coats of

of an onion. 2. Of a great many little bladders, or veficles, fometimes of an oval, and fometimes an angular figure, which fill up the fpaces between the faid fibres; and are placed, as it were, in lines horizontally towards the wood. And, 3. Of its own peculiar veffels, which contain the proper and fpecific juice of the plant. The woody fibres are certain tubular bodies, hollow for the reception of their proper fluids; and are compofed of a great many fmaller concave fibres, difpofed in a quadrangular figure, and communicating one with another. Thefe veffels do not run in right-lines or parallels; but, for the moft part, are gathered together, as it were, in little bundles; which, when extended, or feparated from each other, form a kind of net, or reticular coat, with which they embrace the wood. Dr. Grew calls them the lymphatic ducts, from their containing an aqueous, limpid, and almoft infipid fluid. The bladders, or veficles, which are full of liquor they receive from the woody fibres, are, for the moft part, placed horizontally in right-lines, which run from the cuticle towards the wood, and are called, by Dr. Grew, the parenchyma of the bark, as being analogous to the parenchyma in the bowels of animals. Into thefe tranfverfe veficles, the afcending fluid, which may be called the chyle of the tree, is depofited; where having remained for fome time, and being intimately mixed with the former juice, it is at length exalted into the nature of an aliment, and from thence diftributed to the other parts of the plant. And as there is great plenty of this kind of fluid in thefe little bladders, or veficles, it is no wonder, that the bark of a tree fhould fupply the fire with a ftronger and more abundant pabulum, than any other part.

The antients wrote their books on bark, efpecially of the afh and lime-tree, not on the exterior, but on the inner and finer bark, called philyra.

There are a great many kinds of barks, in ufe in the feveral arts: fome in agriculture, and in tanning leather, as the oak-bark; fome in phyfic, as the *quinquina*, or jefuits bark, mace, *&c.* others in dying, as the bark of alder and walnut-trees; others in fpicery, as cinnamon, caffia lignea, *&c.* and others for divers ufes, as the bark of the cork-tree, linden-tree and birch-tree. In the Eaft-Indies, they fpin the bark of a certain tree into a ftuff. They likewife mix it with filk in manufacturing the ftuffs which go under the names of *nillacs, cherquemolles* and *fatalonges*.

Bark, or Jesuit's Bark, is a name given by way of eminence to the quinquina. See the article Quinquina.

Bark, in navigation, a little veffel with two or three triangular fails; but, according to Guillet, it is a veffel with three mafts, *viz.* a main-maft, fore-maft, and mizen-maft. It carries about two hundred tons.

Bark longue, or barca longa, a fmall low fharp-built, but very long veffel without a deck. It goes with fails and oars, and is very common in Spain.

BARKAN, a town of Hungary, remarkable for two victories, which the chriftians obtained there over the Turks, the one in 1664, and the other in 1683.

BARKARY, a tan-houfe, or place for keeping bark.

BARK-BINDING, a diftemper incident to trees, cured by flitting the bark, or cutting along the grain.

Bark-galling, is when trees are galled with thorns, *&c.* It is cured by binding clay on the galled places.

BARKHAMSTEAD, a market-town in the weft part of Hertfordfhire, about eighteen miles weft of Hertford, in 40′ weft longitude, and 51° 40′ north latit.

BARKING, a fifhing town of Effex, fituated on the river Thames, about eight miles eaft of London.

Barking *of trees*, the peeling off the rind or bark.

This muft be done, in our climate, in the month of May, becaufe at that time, the fap of the tree feparates the bark from the wood. It would be very difficult to perform it at any other time of the year, unlefs the feafon was extremely wet and rainy, for heat and drinefs are a very great hindrance to it.

BARKLEY, a market-town in Gloucefterfhire, about fifteen miles fouth-weft of Gloucefter: weft longitude 2° 35′, and north latitude 51° 40′.

BARKWAY, a market-town of Hertfordfhire, under the meridian of London, and fifteen miles fouth of Cambridge.

BARLEDUC, the capital of the dutchy of Bar. See the article Bar.

BARLEMONT, a town of Hainault, in the french Netherlands; fituated on the river Sambre, about fifteen miles fouth of Mons: eaft longitude 3° 40′, and north latitude 50° 10′.

BARLERIA, a genus of plants of the *didynamia angiofpermia* clafs, the flower

of which is monopetalous, and the fruit a capſule of a quadrangular figure, formed of two valves, with one cell, containing ſeveral plane orbiculated and imbricated ſeeds.

BARLETTA, a port-town of Barri, in the kingdom of Naples, ſituated on the gulph of Venice, twenty-two miles weſt of Barri, in 17° eaſt longitude, and 41° north latitude.

BARLEY, HORDEUM, in botany. See the article HORDEUM.

The ſeaſon for ſowing barley differs according to the nature of the ſoil and ſituation of the place; ſome ſowing in March, others in April, and ſome in May, yet with good ſucceſs.

The principal uſe of barley is for making beer: but beſides this, it is of conſiderable uſe in medicine, on account of its cooling and abſterſive qualities. Hence, a decoction of barley, eſpecially if a little nitre be diſſolved in it, is greatly recommended in ſlow fevers.

BARLEY-CORN, the leaſt of our long-meaſures, being the third of an inch.

BARM, otherwiſe called YEAST, the head or workings out of ale or beer.

BARNABITES, a religious order, founded in the ſixteenth century, by three italian gentlemen, who had been adviſed by a famous preacher of thoſe days to read carefully the epiſtles of St. Paul. Hence they were called clerks of St. Paul, and barnabites, becauſe they performed their firſt exerciſe in a church of St. Barnabas at Milan. Their habit is black, and their office is to inſtruct, catechiſe, and ſerve in miſſion.

BARNACLE, *bernicla*, in ornithology, a ſpecies of gooſe with a black beak, which is much ſhorter than in the common gooſe.

BARNACLE is alſo a ſpecies of ſhell-fiſh, otherwiſe called choncha anatifera. See the article CONCHA.

BARNACLES, in farriery, an inſtrument compoſed of two branches joined at one end with a hinge, to put upon horſes noſes when they will not ſtand quietly to be ſhod, blooded, or dreſſed.

BARNARD-CASTLE, a town of the biſhopric of Durham, in 1° 3′ weſt longitude, and 54° 26′ north latitude.

BARNET, a market-town of Middleſex (part of it in Hertfordſhire) ten miles north weſt of London, in 10′ weſt longitude and 51° 42′ north latitude.

BARNSTABLE, a port-town of Devonſhire; ſituated on the river Tau, about thirty miles north of Exeter; weſt longitude 4° 10′, and north latitude 51° 42′. It ſends two members to parliament.

BAROCHE, a port-town of the hither India, in the province of Cambaya; ſituated ſixty miles north of Surat: eaſt longitude 72° 5′ and north latitude 22° 15′.

BAROCO, in logic, a term given to the fourth mode of the ſecond figure of ſyllogiſms. A ſyllogiſm in baroco has the firſt propoſition univerſal and affirmative, but the ſecond and third particular and negative, and the middle term is the predicate in the two firſt propoſitions. For example:

Nullus homo non eſt bipes:
Non omne animal eſt bipes:
Non omne animal eſt homo.

BAROMETER, a machine for meaſuring the weight of the atmoſphere, and the variations therein, in order to determine the changes of the weather.

The barometer is founded on an experiment of Torricelli, who conſidering that a column of water of about thirty-three feet was equal in weight to a column of air of the ſame baſe, concluded that a column of mercury, no longer than about twenty-nine inches and a half would be ſo too, ſuch a column of mercury being as heavy as thirty-three feet of water. Accordingly he tried the experiment, and the apparatus he made uſe of is now the common barometer or weather-glaſs. It is conſtructed in the following manner: AB, (plate XXV. fig. 4. n°. 1.) a glaſs tube of thirty-four inches length, and $\frac{1}{4}$ of an inch in diameter hermetically ſealed at A, and open at B, is to be filled with quickſilver well defecated and purged of its air. The finger then being placed on the open end in immediate contact with the mercury, ſo as to exclude every particle of air, the tube is inverted and carefully immerſed, with the finger on the open end, into CD, a baſon of the ſame prepared mercury; then upon removing the finger, the mercury in the baſon will join that in the tube, and the ſaid column of mercury in the tube will be ſeen immediately to ſubſide, as in the figure; GH repreſents the ſurface of the mercury in the tube, and EF that of the mercury in the baſon.

This inſtrument is perhaps the beſt hitherto contrived for meaſuring the air's gravity, which that it may do to the greateſt perfection, it is neceſſary that there be a nonius applied to the index of a graduated plate, to meaſure more accurately the riſe and fall of the mercury.

A

A nonius, fo called from the name of its inventor, is a fmall plate fo contrived as to flide by a graduated plate in fuch a manner, that its index may be always fet on one part to the furface of the mercury, and on the other end pointing to the divifion in the fcale of inches correfponding thereto. It is divided into ten equal parts, which together are equal to eleven of the divifions of the fcale, that is eleven tenths of an inch; and confequently each fmall divifion of the nonius is equal to 1.1, two of them to 2.2, three of them to 3.3 of an inch, and fo on. Whence it is eafy to obferve, that if the index points between any two divifions of the fcale, we need only look back to fee what divifion of the nonius coincides with a divifion of the fcale, and that will fhew the number of tenths of a tenth; which is a great degree of exactnefs.

The mercury ftanding at a lefs height, the nearer it is carried to the top of the atmofphere, renders the barometer ufeful in determining the height of mountains, and finding out the different elevation of one place above another. Accordingly Dr. Halley, in the philofophical tranfactions, fhews how many feet each inch in the defcent of the mercury anfwers to, as it is conveyed to any elevated place. See the article ATMOSPHERE.

But the principal ufe of it is to eftimate the gravity of the air at different times, in order to forefee the alterations of the weather; for which purpofe the following moft remarkable phænomena, relating to the rifing and falling of the mercury, are faid to be carefully obferved. 1. The rifing of mercury prefages in general fair weather, and its falling foul weather. 2. In very hot weather, the falling of mercury forefhews thunder. 3. In winter, the rifing prefages froft, but in a continued froft, it prefages fnow. 4. When foul weather happens foon after the falling of the mercury, expect but little of it, and fo on the contrary of fair weather. 5. But when the mercury continues to rife for fome time before the foul weather is over, expect a continuance of fair weather to follow. 6. In fair weather, when the mercury continues to fall before rain comes, then expect a great deal of wet, and probably high winds. 7. The unfettled motion of the mercury denotes uncertain and changeable weather.

From thefe obfervations it appears, that it is not fo much the height of the mercury in the tube that indicates the weather, as the motion of it up and down; wherefore, in order to know whether the mercury is actually rifing or falling, the following rules are of ufe. 1. If the furface of the mercury is convex, it is a fign that the mercury is then rifing. 2. If the furface is concave it is finking. 3. If the furface is plain, or rather a little convex, the mercury is ftationary. 4. If the glafs is fmall, fhake the tube, and if the air is grown heavier, the mercury will rife about half the tenth of an inch; if it is growing lighter, it will fink as much.

The ufefulnefs of barometers, and the advantage that would arife from perceiving the moft minute variations in eftimating the height of places, have given occafion to the invention of feveral kinds of barometers, different from the torricellian or common one, though founded on the fame principle. In all thefe, the artift's principal view has been to inlarge the fcale of variation, which in the common one, is not above three inches.

The horizontal or rectangular barometer (ibid. n°. 2.) is hermetically fealed at A, and filled with mercury from D to E; then as the upper furface of it rifes in the tube, fuppofe from E to F, the lower will be driven from D to G, as many times farther as this part of the tube is lefs than that at E. But it often happens, that fome parts of the mercury break off from the reft in the leg B C, and are left behind.

The diagonal barometer is reprefented by A B C, (ibid. n°. 3.) wherein the mercury, inftead of rifing from B to D (fuppofe that fpace to correfpond to the fcale of variation in a ftrait tube) will rife from B to A, for it will always ftand at the fame perpendicular heighth, whatever be the inclination of the tube, becaufe fluids prefs only according to their perpendicular altitude. But the tube A B muft not be too much inclined, left the mercury break in it, as in the former.

The wheel barometer will be underftood from (n°. 4. ibid.) where A B D is a tube filled with mercury from *a* to E, *a* being an iron ball fwimming on the furface of the mercury: thus, as it fubfides on the furface of the mercury, draws round the little wheel *m n*, to the circumference of which it is fixed by means of the ftring *a c*. This wheel carries the index P Q, which points to the graduated edge of the circle K L, and by its motion, fhews the

the moſt minute variations of the mercury. When the ball *a* is raiſed by the mercury on which it ſwims, the index is drawn on the contrary way by a leſſer ball *b*, which hangs on the other ſide of the wheel. The friction in this machine, unleſs it be made with great accuracy indeed, renders it uſeleſs.

The pendent barometer conſiſts of a ſmall conical tube (ibid. n°. 5.) hermetically ſealed at A, and filled with mercury from C to D, and empty from thence to A. Now ſuppoſing the gravity of the air increaſed, it will raiſe the mercury higher in the tube, and ſo force it into a narrower part; by which means the column becoming longer, its perpendicular preſſure upon the air below will be proportionably increaſed. On the contrary, when the air becomes lighter, the mercury deſcends into a larger part of the tube, and by that means has the length of its column proportionably contracted. But in this barometer either the tube muſt be very ſmall, in which caſe the friction of the mercury againſt the ſides will hinder it from riſing and falling freely; or when the tube is large, the air will get in, and be apt to divide the column in ſeveral places.

Theſe are the principal contrivances hitherto invented for inlarging the ſcale of variation in ſimple mercurial barometers. There are other inventions of compound barometers, *viz.* ſuch as are made of mercury and water, or other liquors, as the marine barometer and ſtatical barometer; but they are ſo difficult to make, ſo faulty when made, and ſo troubleſome to uſe, that we ſhall not deſcribe them. However, that the reader may have an idea of two of the beſt ſort, we ſhall preſent him with a deſcription of that of Des Cartes, and of that which owes its invention to Mr. Rowning.

That of Des Cartes is a bent tube A B C, (ibid. n° 6.) hermetically ſealed at A, filled with water from F to D, from D to E with mercury, and empty from thence to the top. Then, upon the mercury's riſing, ſuppoſe from E to M, and falling as much at D, the ſurface of the water at F would ſink ſo many times farther than the ſurface of the mercury at D as the tube C G was ſmaller than G H. But the water here is liable to evaporate.

A B C (ibid. n° 7.) repreſents Mr. Rowning's, and is a compound tube ſealed at A, and open at C, empty from A to D, filled with mercury, from thence to B, and from thence to E with water. Let G B H be an horizontal line, then it is plain, from the nature of the ſyphon, that all the compound fluid contained in the part from H to G, muſt ever be in equilibrio with itſelf, be the weight of the air what it will, becauſe the preſſure at H and G muſt be equal. Whence it is evident, that the column of mercury D H is in equilibrio with the column of water G E, and a column of air of the ſame baſe conjointly, and will therefore vary with the ſum of the variations of each of theſe. The great property of this barometer is, that the ſcale of variation may be increaſed *ad infinitum*.

BARON, a degree of nobility next below a viſcount, and above a baronet. It is probable that formerly all thoſe were barons, who had lordſhips with courts-baron, and ſoon after the conqueſt all ſuch ſat in the houſe of peers; but they being very numerous, it grew an order and cuſtom, that none ſhould ſit but ſuch as the king thought fit to call up by writ, which ran *pro hac vice tantum*. This ſtate of nobility being very precarious, they at length obtained of the king letters patent, and theſe were called barons by patent, or creation, the only way now in uſe of making barons, unleſs when the ſon of a lord, in his anceſtor's lifetime, is ſummoned by writ.

On ſolemn occaſions, barons wear a coronet, repreſented in plate XXVI, fig. 2.

BARON *by tenure*, one who held certain territories of the king, who ſtill retained the tenure in chief to himſelf.

BARONS *of the exchequer*, the four judges to whom the adminiſtration of juſtice is committed, in cauſes between the king and his ſubjects, relating to matters concerning the revenue. They were formerly barons of the realm, but of late are generally perſons learned in the laws. Their office is alſo to look into the accounts of the king, for which reaſon they have auditors under them. See the article AUDITOR.

BARONS *of the cinqueports* are ſixteen members of the houſe of commons, elected by the cinqueports, two for each port. See the article CINQUEPORTS.

BARON AND FEME, in our law, a term uſed for the huſband in relation to his wife, who is called feme; and they are deemed but one perſon, ſo that a wife cannot be witneſs for, or againſt, her huſband, nor he for or againſt his wife, except in caſes of high treaſon.

Baron and feme, in heraldry, is when the coats of arms of a man and his wife are borne per pale in the ſame eſcutcheon, the man's being always on the dexter ſide, and the woman's on the ſiniſter; but here the woman is ſuppoſed not an heireſs, for then her coat muſt be borne by the huſband on an eſcutcheon of pretence. See the articles Pale and Escutcheon *of pretence*.

Prender de Baron. See Prender.

BARONET, a modern degree of honour, next to a baron, created by king James I. in order to propagate a plantation in Ulſter, in Ireland, for which purpoſe each of them was to maintain thirty ſoldiers in Ireland, for three years, after the rate of eight pence ſterling per day to each ſoldier. The honour is hereditary, and they have the precedence of all knights, except thoſe of the garter, bannerets, and privy-counſellors. They are ſtiled baronets in all writs, and the addition of Sir is attributed to them, as the title of Lady is to their wives. No honour is to be created between barons and baronets.

BARONY, the honour and territory which gives title to a baron, whether he be a layman or a biſhop. See Baron.

According to Bracton, a barony is a right indiviſible; wherefore, if an inheritance is to be divided among coheirs, though ſome capital meſſuages may be divided, yet if the capital meſſuage be the head of a county or barony, it may not be parcelled; and the reaſon is, leſt by this diviſion many of the rights of counties and baronies by degrees come to nothing, to the prejudice of the realm, which is ſaid to be compoſed of counties and baronies.

The baronies belonging to biſhops are by ſome called regalia, as being held ſolely on the king's liberality.

In ſome caſes it is ſaid a barony may be aliened or intailed, and the honour paſs accordingly. A certain number of knight's fees antiently made a barony.

BAROSCOPE, the ſame with barometer. See the article Barometer.

BARR, or Bar. See the article Bar.

Barr-dice, falſe dice, ſo contrived as not readily to turn up certain ſides.

BARRA, in commerce, a long meaſure uſed in Portugal and ſome parts of Spain, to meaſure woollen cloths, linen cloths, and ſerges. There are three ſorts, the barra of Valencia, 13 of which make 12 $\frac{4}{7}$ yards engliſh meaſure; the barra of Caſtile, 7 of which make 6 $\frac{4}{7}$ yards; and the barra of Aragon, 3 of which make 2 $\frac{4}{7}$ yards engliſh.

Barra, in geography, one of the ſcotch weſtern iſlands, ſituated in 10° weſt lon. and 56° 40′ north latitude.

It is alſo the name of a kingdom in Africa.

BARRACAN, in commerce, a ſort of ſtuff, not diapered, ſomething like camblet, but of a coarſer grain. It is uſed to make cloaks, ſurtouts, and ſuch other garments, to keep off the rain.

BARRACKS, or Baracks, places for ſoldiers to lodge in, eſpecially in garriſons. Dr. Pringle obſerves, that damp barracks are highly injurious to the health of thoſe lodged in them; and therefore ought to be altogether rejected, or remedied by ſome means or other.

BARRACOL, in ichthyology, the engliſh name of the ſmooth raja, with ſpines about the eyes, and three rows of them at the tail. See the article Raja.

BARRATOR, in law, a common mover or maintainer of ſuits and quarrels, either in courts or elſewhere in the country. A man cannot be adjudged a barrator for bringing any number of ſuits in his own right, though they are vexatious. Barrators are puniſhed by fine and impriſonment.

BARRATRY, in law, ſignifies the fomenting quarrels and law-ſuits. See the preceding article.

Barratry, in a ſhip-maſter, is his cheating the owners. If goods delivered on ſhip-board, are embezzled, all the mariners ought to contribute to the ſatisfaction of the party that loſt his goods, by the maritime law; and the cauſe is to be tried in the admiralty. In a caſe, where a ſhip was inſured againſt the barratry of the maſter, *&c.* and the jury found that the ſhip was loſt by the fraud and negligence of the maſter, the court agreed that the fraud was barratry, tho' not named in the covenant; but that negligence was not.

BARRE, or Bar. See the article Bar.

BARREAUX-FORT, a fortreſs of Savoy, having Montmelian on the north, and Grenoble on the ſouth; ſituated in 5° 30′ eaſt lon. and 45° north latitude.

BARREL, in commerce, a round veſſel, extended more in length than in breadth, made of wood, in form of a little tun. See the article Tun.

It ſerves for holding ſeveral ſorts of merchandize,

Barrel

Barrel is alſo a meaſure of liquids. The engliſh barrel, wine meaſure, contains the eighth part of a tun, the fourth part of a pipe and one half of an hogſhead; that is to ſay, it contains thirty-one gallons and a half: a barrel, beer-meaſure, contains thirty-ſix gallons: and ale meaſure, thirty-two gallons. The barrel of beer, vinegar, or liquor preparing for vinegar, ought to contain thirty-four gallons, according to the ſtandard of the ale-quart.

BARREL alſo denotes a certain weight of ſeveral merchandizes, which differs according to the ſeveral commodities: a barrel of eſſex butter weighs one hundred and ſix pounds, and of ſuffolk butter, two hundred and fifty-ſix pounds. The barrel of herrings ought to contain thirty-two gallons wine-meaſure, which amount to about twenty-eight gallons old ſtandard, containing about a thouſand herrings. The barrel of ſalmon muſt contain forty-two gallons. The barrel of eels the ſame. The barrel of ſoap muſt weigh two hundred and fifty-ſix pounds.

BARREL, in mechanics, a term given by watch-makers to the cylinder about which the ſpring is wrapped: and by gun-ſmiths to the cylindrical tube of a gun, piſtol, &c. through which the ball is diſcharged.

BARREL, in anatomy, a pretty large cavity behind the tympanum of the ear, about four or five lines deep, and five or ſix wide. It is lined with a fine membrane, on which there are ſeveral veins and arteries. In this cavity are four ſmall ſolid bones, not covered with a perioſteum, as the reſt of the bones of the body are.

Thundering BARRELS, in the military art, are filled with bombs, grenades, and other fire-works, to be rolled down a breach.

BARRELING, the putting certain commodities into barrels: thus we ſay, to barrel ſalmon, herring, &c. See the articles SALMON and HERRING.

BARRENNESS, the ſame with ſterility. See the article STERILITY.

BARRERIA, in botany, a genus of the *pentandria-tetragynia* claſs of plants, the corolla whereof is compoſed of five oval petals, with very long filiform ungues; the antheræ are ſimple; the germen is rude, immerſed in the cup, and quinquefid; the ſtyles are five, they are filiform, and of the length of the ſtamina; the ſtigmata are obtuſe.

BARRI, a city of the kingdom of Naples, and capital of a province of the ſame name, ſituated on the gulph of Venice, in 17° 40′ eaſt long. and 40° 40′ north lat.

BARRICADE, or BARRICADO, a warlike defence, conſiſting of empty barrels and ſuch like veſſels, filled with earth, ſtones, carts, trees cut down, againſt an enemy's ſhot, or aſſault; but generally trees cut with ſix faces, which are croſſed with battoons as long as a half-pike, bound about with iron at the feet.

BARRIER, in fortification, a kind of fence made at a paſſage, retrenchment, &c. to ſtop up the entry thereof, and is compoſed of great ſtakes, about four or five feet high, placed at the diſtance of eight or ten feet from one another, with tranſums, or over-thwart rafters, to ſtop either horſe or foot, that would enter or ruſh in with violence: in the middle is a moveable bar of wood, that opens and ſhuts at pleaſure. A barrier is commonly ſet up in a void ſpace, between the citadel and the town, in half-moons, &c.

BARRIER has been alſo uſed to ſignify a martial exerciſe of armed men, fighting together with ſhort ſwords, within rails or bars, which incloſed them.

BARRING *a vein*, in farriery, an operation performed upon the veins of a horſe's legs, and other parts of his body, with intent to ſtop the courſe, and leſſen the quantity of the malignant humours that prevail there.

It is done by opening the ſkin above the part, and, after diſengaging it, and tying it both above and below, ſtriking between the two ligatures. When horſes have got traverſe mules, or kibed heels, and rat tails, or arreſts in the hinder legs, it is common to barr a vein.

BARRISTER, in common law, a perſon qualified and impowered to plead and defend the cauſe of clients, in the courts of juſtice. They are of two ſorts, the outward, or outer barriſters, who, by their long ſtudy in, and knowledge of, the law, which muſt be for a term of ſeven years at leaſt, are called to public practice, and always plead without the bar. The inner barriſters are thoſe who, becauſe they are either attorney, ſolicitor, ſerjeant, or council to the king, are allowed, out of reſpect, the privilege of pleading within the bar. But at the rolls, and ſome other inferior courts, all barriſters are admitted within the bar.

Barriſters, in the engliſh law, amount to the ſame with licentiates and advocates in other countries, and courts, where the civil, &c. laws obtain.

BARROW, in the ſalt-works, wicker

cases, almost in the shape of a sugar-loaf, wherein the salt is put to drain.

BARROW, also denotes a large hillock, or mount of earth or stones, raised, by the antients, as a sepulchral monument, more especially over their illustrious dead. These barrows were, by the Romans, called *tumuli*, and are still to be seen in great numbers in almost all parts of Britain, Ireland, and the british Isles, as well as in several other countries. Some of these barrows appear rude and tumultuary; others are more regular, and trenched round: some are the sepulchral monuments of antient Britons; others of Romans, and others of Saxons and Danes. In some have been found urns, ashes, and calcined bones; in others human skeletons.

BARRULET, in heraldry, the fourth part of the bar, or the one half of the closset: an usual bearing in coat-armour.

BARRULY, in heraldry, is when the field is divided bar-ways, that is across from side to side, into several parts. See plate XXVI. fig. 5.

BARRY, in heraldry, is when an escutcheon is divided bar-ways, that is across from side to side, into an even number of partitions, consisting of two or more tinctures, interchangeably disposed: it is to be expressed in the blazon by the word *barry*, and the number of pieces must be specified; but if the divisions be odd, the field must be first named, and the number of bars expressed.

BARRY-BENDY is when an escutcheon is divided evenly, bar and bend-ways, by lines drawn transverse and diagonal, interchangeably varying the tinctures of which it consists. See plate XXVI. fig. 6.

BARRY-PILY is when a coat is divided by several lines drawn obliquely from side to side, where they form acute angles.

BARSANIANS, in church-history, certain heretics, who maintained the errors of the gajanites, and made their sacrifices consist in taking wheat flour to their mouth, on the top of their finger.

BARSE, a name sometimes given to the pearch.

BARTERING, in commerce, the exchanging of one commodity for another, or the trucking wares for wares, among merchants.

Bartering was the original and natural way of commerce, precedent to buying; there being no buying till money was invented, though, in exchanging, both parties are buyers and sellers. The only difficulty in this way of dealing lies in the due proportioning the commodities to be exchanged, so as that neither party sustain any loss.

The following example will sufficiently explain the method of proportioning the commodities. Two merchants *A.* and *B.* barter; *A.* would exchange 5 *C.* 3 quarters 14 ℔. of pepper, worth 3 *l.* 10 *s.* per *C.* with *B.* for cotton worth 10 *d.* per pound; how much cotton must *B.* give *A.* for his pepper?

In order to solve this question, and all others of the same nature, we must first find, by proportion, the true value of that commodity whose quantity is given; which, in the present case, is pepper: and then find how much of the other commodity will amount to that sum, at the rate proposed.

First, to find the value of the pepper, say As 1 *C.* is to 3 *l.* 10 *s.* so is 5 *C.* 3 quarters 14 ℔. to 20 *l.* 11 *s.* 3 *d.* the true value of the pepper.

Then it is easy to conceive that *A.* ought to have as much cotton at 10 *d.* per pound, as will amount to 20 *l.* 11 *s.* 3 *d.* which will be found by the following proportion.

As 10 *d.* is to 1 ℔. so is 20 *l.* 11 *s.* 3 *d.* to 4 *C.* 1 quarter 17 $\frac{1}{2}$ ℔.—And so much cotton must *B.* give *A.* for his 5 *C.* 3 quarters 14 ℔. of pepper.

BARTHOLOMEW, or ST. BARTHOLOMEW, one of the Caribbee islands, situated in 62° 5′ west longit. and 18° 6′ north latitude.

BARTON, a market-town in Lincolnshire, situated on the southern shore of the Humber, thirty miles south-east of York, in 15′ west long. and 53° 45′ north lat.

BARTON is also used, in the west of England, for the demesne lands of a manor; also for the manor-house; and in some parts for out-houses, *&c.*

BARTRAMIA, in botany, is a genus of the decandria monogynia class of plants, the calyx of which is a perianthium, cut into five parts: the corolla consists of five wedge-shaped petals; the fruit is globular, and the seeds are four in number, convex on one side, and angular on the other.

BARTSIA, in botany, a genus of the *didynamia-angiospermia* class of plants, whose flower consists of one petal, having the upper lip longest; the seeds are numerous, small, angular, and inclosed in capsules.

BARUTH, an indian measure, containing seven-

feventeen gantans: it ought to weigh about three pounds and an half of englifh avoirdupois.

BARULES, in church-hiftory, certain heretics, who held that the fon of God had only a phantom of a body; that fouls were created before the world, and that they lived all at one time.

BARYTONUM, in the italian mufic, the fame with our bafs. See the article BASS.

BASS-RELIEF. See the article BASSO-RELIEVO.

BASALTES, in natural hiftory, called alfo *coticula*, *lapis heraclius*, and *lapis lydius*, a kind of marble, of a very fine texture of a deep gloffy black, refembling that of polifhed fteel, and mixed with no other colour, nor any extraneous matter of any kind. The moft remarkable quality of this marble is its figure, being never found in ftrata, like other marbles, but always ftanding up in the form of regular angular columns, compofed of a number of joints, one placed on, and nicely fitted to another, as if formed by the hands of a fkilful workman. It is remarkably hard and heavy, will not ftrike fire with fteel, and is a fine touch-ftone. See plate XXVI. fig. 7. The bafaltes was originally found in columns in Ethiopia, in fragments in the river Tmolus, and fome other places; we now have it frequently, both in columns and fmall pieces, in Spain, Ruffia, Poland, near Drefden, and in Silefia; but the nobleft ftore in the world feems to be that called the Giant's caufe-way, in Ireland, where it rifes far up in the country, runs into the fea, croffes its bottom, and rifes again on the oppofite land.

BASARUCO, in commerce, a fmall bafe coin in the Eaft-Indies, being made only of very bad tin. There are, however, two forts of this coin, a good and a bad, which is $\frac{1}{6}$ in value lower than the good.

BASE, in geometry, the loweft fide of the perimeter of a figure: thus, the bafe of a triangle may be faid of any of its fides, but more properly of the loweft, or that which is parallel to the horizon. In rectangled triangles, the bafe is properly that fide oppofite to the right angle. See the article HYPOTHENUSE.

BASE *of a folid figure*, the loweft fide, or that on which it ftands; and if the folid has two oppofite parallel plane fides, and one of them is the bafe, then the other is called the bafe alfo.

BASE *of a conic fection*, a right line in the hyperbola and parabola, arifing from the common interfection of the fecant plane, and the bafe of the cone.

Altern BASE. See the article ALTERN.

BASE, in architecture, is ufed for any body which bears another, but particularly for the lower part of a column and pedeftal. The bafe of a column is that part between the fhaft and the pedeftal, if there be any pedeftal, or if there be none, between the fhaft and the plinth, or zocle. The bafe is different in the different orders.

The tufcan bafe is the moft fimple of all others, having only a fingle tore. The doric bafe has an aftragal more than the tufcan, and that was introduced by the moderns. The ionic bafe has a large tore over two flender fcotias, feparated by two aftragals, according to Vitruvius. The corinthian bafe has two tores, two fcotias, and two aftragals. The compofite bafe has an aftragal lefs than the corinthian. The attic or atticurgic bafe, fo called, becaufe it was introduced by the Athenians, has two tores and a fcotia, and is a proper bafe for ionic and compofite columns. See IONIC, DORIC, *&c.*

BASE RUDENTE'E, that which has its tores cut like cables.

BASE, in fortification, the exterior fide of the polygon, or that imaginary line which is drawn from the flanked angle of a baftion, to the angle oppofite to it.

BASE, in gunnery, the leaft fort of ordnance, the diameter of whofe bore is $1\frac{1}{4}$ inch, weight 200 pound, length 4 feet, load 5 pound, fhot $1\frac{1}{2}$ pound wt. and diameter $1\frac{1}{8}$ inch.

BASE LINE, in perfpective, the common fection of a picture, and the geometrical plane.

Diftinct BASE, in optics. See FOCUS.

BASE *of the heart*, in anatomy, denotes its upper part.

The term bafe is fometimes alfo ufed for the root of the os hyoides.

BASE, or BASS, in mufic. See BASS.

BASE, in law. Bafe eftate, fuch as bafe tenants have in their hands. Bafe tenure, the holding by villenage or other cuftomary fervices, as diftinguifhed from the higher tenures in capite, or by military fervice. Bafe fee, is to hold in fee at the will of the lord, as diftinguifhed from foccage tenure. Bafe court, any court not of record.

BASE POINT, in heraldry. See POINT.

BASEMENT, in architecture, a bafe continued a confiderable length, as round a houfe, room, *&c.*

BASHAW,

BASHAW, a turkish governor of a province, city, or other district.

Bashaws include beglerbegs, and sometimes sangiacbegs, though a distinction is sometimes made, and the name bashaw is appropriated to the middle sort, or such as have two ensigns or horse-tails carried before them. Those who have the honour of three tails, are called beglerbegs; and those who have only one, sangiacbegs.

The appellation bashaw is given by way of courtesy, to almost every person of any figure at the grand signior's court.

BASIGLOSSUS, or BASIOGLOSSUS. See the article BASIOGLOSSUS.

BASIL, in geography, a city and canton of Switzerland, near the confines of Alsace, situated on both sides the river Rhine.

The city is large, populous, and fortified; being situated in 7° 40′ east longit. and 47° 40′ north latitude.

BASIL, in botany, the english name of a genus of plants called by botanists *ocymum*. See the article OCYMUM.

BASIL, among joiners, the sloping edge of a chissel, or of the iron of a plane, to work on soft wood; they usually make the basil twelve degrees, and for hard wood eighteen; it being remarked, that the more acute the basil is, the better the instrument cuts; and the more obtuse, the stronger and fitter it is for service.

Order of St. BASIL, the most antient of all the religious orders, was very famous in the east. It passed into the west about the year 1057, and was held in great esteem, especially in Italy. As to their rules, the italian monks of that order fast every Friday in the year: they eat meat but three times a week, and then but once a day: they work all together at certain hours of the day: their habit is nearly like that of the benedictines, and they wear a small beard like the fathers of the mission.

BASILARE OS, in anatomy, the same with *os sphenoides*. See SPHENOIDES.

BASILIC, in antient architecture, a term used for a large hall, or public place, with isles, porticos, galleries tribunals, &c. where princes sat and administred justice in person. But the name has since been transferred, and is now applied to such churches, temples, &c. which by their grandeur as far surpass other churches as princes palaces do private houses: as also to certain spacious halls in princes courts, where the people hold their assemblies: and to such stately buildings as the Palais at Paris, and the Royal-exchange at London, where merchants meet and converse.

BASILICA, in anatomy, the interior branch of the axillary vein, running the whole length of the arm. See the articles AXILLARY and VEIN.

BASILICATE, a province of the kingdom of Naples, having the Terra di Barri on the north, and the province of Calabria on the south.

BASILICI, a denomination given in the greek empire to those who carried the emperor's orders and commands.

BASILICON, in pharmacy, an epithet for a great many compositions to be found in the antient medicinal writers: but it more particularly denotes an officinal ointment, composed of wax, resin, pitch, and oil of olives, from thence called *tetrapharmacum*.

It is much used to incarnate wounds; though of late our surgeons begin to substitute, for such intentions, dressings that are not so liable to produce fungosities. See the article WOUND.

BASILICS, *basilica*, a body of the roman laws, translated into greek. The basilics comprehend the institutes, digests, code, novels, and some edicts of Justinian and other emperors.

BASILICUS, in astronomy, *cor leonis*, a fixed star of the first magnitude in the constellation leo. See the article LEO.

BASILIDIANS, in church-history, a branch of gnostics, who maintained that Christ's body was only a phantom, and that Simon the Cyrenean suffered in his stead.

BASILISK, *basiliscus*, a fabulous kind of serpent, said to be produced from a cock's egg, hatched by a serpent, and supposed to kill by its breath or sight only.

BASILISK, in military affairs, a large piece of ordnance, being a forty-eight pounder, and weighing about seven thousand two hundred pounds. The basilisks of the French are but ten feet long, those of the Dutch fifteen.

BASINGSTOKE, a market-town of Hampshire, about sixteen miles north-east of Winchester, in 1° 15′ west long. and 51° 20′ north latitude.

BASIOGLOSSUS, in anatomy, a muscle arising from the base of the os hyoides, and running along the middle of the tongue towards its apex: with the assistance of the ceratoglossus, it draws the tongue backward, and makes it shorter.

BASIS,

BASIS, BASE, in geometry. See BASE.

BASIS, among phyſicians, denotes the principal ingredients in compound medicines.

BASKET, a kind of veſſel made of twigs interwoven together, in order to hold fruit, earth, &c. It denotes an uncertain quantity, as a baſket of medlars is two buſhels; of aſa fœtida from twenty to fifty pounds weight.

BASKETS *of earth*, in the military art, called by the French *corbeilles*, are ſmall baſkets uſed in ſieges, on the parapet of a trench, being filled with earth. They are about a foot and a half high, about a foot and a half diameter at the top, and eight or ten inches at bottom, ſo that being ſet together, there is a ſort of embraſſures left at their bottoms, through which the ſoldiers fire, without expoſing themſelves.

BASKET-FISH, a kind of ſtar-fiſh caught in the ſeas of north America. See the article STAR-FISH.

BASKET-SALT, that made from ſalt-ſprings, being purer, whiter, and compoſed of finer grains than the common brine-ſalt.

BASKET-TENURE, a tenure of lands by the ſervice of making the king's baſkets.

BASKIRI, a country of muſcovitiſh Tartary, bounded on the north by the Tartars of Tumen, on the eaſt by Barabinſkoi, on the ſouth by the mountain Sortora, and on the weſt by the dutchy of Bulgaria.

BASON, *pelvis*, in anatomy. See the article PELVIS.

BASON, in hydraulics, a reſervoir of water, uſed for various purpoſes: thus we ſay, the baſon of a jet d'eau, the baſon of a fountain, and likewiſe the baſon of a port or harbour. See the article DOCK.

BASON *of a bath*, among the antients, that place into which they deſcended by ſteps, in order to bathe. Vitruvius calls it *labrum*.

The french architects diſtinguiſh baſons into different kinds, according to their figure or uſe; as *baſons a rigole*, or trenched baſons: *baſons en coquille*, in the form of a ſhell; and *baſons de partage*, diſtributing baſons.

BASON, in jewiſh antiquities, the laver of the tabernacle, made of the braſs looking-glaſſes belonging to thoſe devout women that watched and ſtood centinels at the door of the tabernacle.

BASON, in mechanics, a term uſed by glaſs-grinders for a diſh of copper, iron, &c. in which they grind convex glaſſes, as concave ones are formed on ſpheres: and by hatters for a round iron mould, in which they form the matter of their hats, and alſo for a leaden one for the brims of hats, having an aperture in the middle, of a diameter ſufficient for the largeſt block to go through.

BASONS *of a ballance*, the two ſcales or diſhes faſtened to the extremities of the ſtrings, the one to hold the weight, and the other the thing to be weighed.

Sale by the BASON, at Amſterdam, is a public ſale made by authority, over which preſides an officer, appointed by the magiſtrates. It is ſo called becauſe, before the lots are delivered to the higheſt bidder, they commonly ſtrike on a copper baſon, to give notice that the lot is going to be adjudged.

BASQUE, or LABOUR, the ſouth-weſt diviſion of the province of Gaſcony, in France.

BASS, in muſic, that part of a concert which is moſt heard, which conſiſts of the graveſt and deepeſt ſounds, and which is played on the largeſt pipes or ſtrings of a common inſtrument, as of an organ, lute, &c. or on inſtruments larger than ordinary, for that purpoſe, as baſs-viols, baſſoons, baſs-hautboys, &c. The baſs is the principal part of a muſical compoſition, and the foundation of harmony; for which reaſon it is a maxim among muſicians, that when the baſs is good, the harmony is ſeldom bad.

Thorough-BASS is the harmony made by the baſs-viols, or theorbo's continuing to play both while the voices ſing, and the other inſtruments perform their parts, and alſo filling up the intervals, when any of the other parts ſtop. It is played by cyphers marked over the notes, on the organ, ſpinet, harpſichord, &c. and frequently ſimply, and without cyphers, on the baſs-viol, and baſſoon.

Counter-BASS is a ſecond or double baſs, where there are ſeveral in the ſame concert.

BASS, in geography, an inacceſſible rock in the Edinburgh frith.

BASS, among gardeners, a ſoft kind of ſedge or ruſh uſed in binding plants, &c.

BASSAIM, or BACCEIM, a port-town of the hither India, ſubject to the Portugueſe, ſituated in 71° 5′ eaſt lon. and 19° 30′ north latitude.

BASSE, in ichthyology, a ſpecies of pearch, otherwiſe called *lupus marinus*, or the ſea-wolf.

BASSET, a game at cards, ſaid to have been

been invented by a noble Venetian, for which he was banifhed.

The perfons concerned in it are a dealer, or banker, his affiftant, who fupervifes the lofing cards, and the punter, or any one who plays againft the banker.

BASSIGNY, the fouth-eaft divifion of the province of Champaign, in France. See the article CHAMPAIGN.

BASSOON, a mufical inftrument of the wind fort, blown with a reed, furnifhed with eleven holes, and ufed as a bafs in a concert of hautboys, flutes, &c.

To render this inftrument more portable, it is divided into two parts, whence it is alfo called fagot. Its diameter at bottom is nine inches, and its holes are ftopped like thofe of a large flute.

BASSO-RELIEVO, or BASS-RELIEF, a piece of fculpture, where the figures or images do not protuberate, jet, or ftand out far above the plane on which they are formed.

Whatever figures or reprefentations are thus cut, ftamped, or otherwife wrought, fo that not the entire body, but only part of it is raifed above the plane, are faid to be done in relief, or relievo: and when that work is low, flat, and but a little raifed, it is called low relief; when a piece of fculpture, a coin, or a medal, has its figure raifed fo as to be well diftinguifhed, it is called bold, and we fay its relief is ftrong.

BASS-VIOL, a mufical inftrument of the like form with that of a violin, but much larger. It is ftruck with a bow as that is, has the fame number of ftrings, and has eight ftops, which are fubdivided into femi-ftops: its found is grave, and has a much nobler effect in a concert than that of the violin.

BASTARD, a natural child, or one born of an unmarried woman. By the laws of England, a baftard is incapable of inheriting land, as heir to his father: nor can any one inherit land as heir to him, except the children of his own body, born in wedlock; for by order of law, a baftard has no relation, of which it takes any notice, and he himfelf is accounted the firft of his family. If a man marries a woman that is big with child by another, who was not her hufband, and the child is born within the efpoufals, then it fhall be deemed the child of the hufband, and no baftard, though it were born but a day after the marriage: but this is underftood when the parties are of age, and there is no apparent impoffibility on the man's fide. If a woman be with child by a man who afterwards marries her, and then the child is born, this child is no baftard: but if a man hath iffue by a woman, before marriage, and afterwards marries her, the firft iffue is a baftard, by our laws, but legitimate by the civil law. If a woman elope from her hufband, and he be within the four feas, her iffue fhall not be a baftard by our laws, though by the fpecial law it fhall: and if the wife continues in adultery, and has iffue, it is a baftard in our law. If the hufband and wife confent to live feparate, and have iffue afterwards, it fhall be accounted legitimate, becaufe the accefs of the hufband fhall be prefumed: but if the contrary be found, it fhall be a baftard.

BASTARD is alfo ufed diminutively, to denote the imperfection or lefs value of things: thus we fay, baftard-fcarlet, baftard-faffron, &c.

BASTARDY, a defect of birth objected to one born out of wedlock, and is general or fpecial: general baftardy is a certificate from the bifhop of the diocefe, to the king's juftices, after enquiry made, whether the party is a baftard or not, upon fome queftion of inheritance. Baftardy fpecial is a fuit commenced in the king's courts, againft a perfon that calls another baftard.

Right of BASTARDY, in the french cuftoms. The baftards of a king of France are princes, when owned; thofe of a prince, or nobleman, are gentlemen; and thofe of a gentleman, are only plebeians, and pay taxes accordingly. By the french laws, baftards cannot inherit before they are legitimated; nor have heirs, except their own children, begotten in wedlock: for want of thefe, their inheritance devolves on the king.

BASTERNA, a fort of vehicle, much the fame with our chariot, ufed by the antient roman ladies. This was a different carriage from the lectica, which it fucceeded, inafmuch as the lectica was borne on men's fhoulders, whereas this was drawn by beafts.

BASTIA, the chief city of the ifland of Corfica. It is a good port, fituated on the north-eaft part of the ifland, in 9° 40′ eaft long. and 42° 20′ north lat.

BASTILE, a caftle for ftate prifoners in Paris, anfwering to the tower of London.

BASTIMENTOS, fmall iflands, on the coaft of Darien, in fouth America, lying a little to the eaftward of Porto Bello.

BASTION, in the modern fortification, a huge mass of earth, faced usually with sods, sometimes with brick, and rarely with stone, standing out from a rampart, whereof it is a principal part, and is what, in the antient fortification, was called a bulwark, *propugnaculum.*

A bastion consists of two faces and two flanks; the faces include the angle of the bastion, and their union makes the outmost, or the saliant angle, called also the angle of the bastion; and the union of the two faces to the two flanks makes the side-angles, called also the shoulders, or epaules; and the union of the two other ends of the flanks to the two curtains makes the angles of the flanks.

In regard to the bastion, the great rule is, that every part of it be seen, and defended from some other part: whence mere angles are not sufficient, but flanks and faces are necessary. For the proportion of the faces, they are not to be less than twenty-four rhineland perches, nor more than thirty. The flanks of a bastion, in case they stand at the same angle under the line of defence, are so much the better the longer they be; whence they must stand at right angles to the line of defence: and the disposition of the flanks makes the principal part of fortification, as it is that on which the defence chiefly depends, and which hath introduced the various forms of fortifying. The angle of the bastion must be more than sixty degrees, otherwise it will be too small to give room for guns, and will either render the line of defence too long, or the flanks too short; so that it must be either a right angle, or some intermediate one between that and sixty degrees; for it is disputed, whether or no it should exceed a right angle. See the article FORT.

Solid BASTIONS are those that have the void space within them filled up entirely, and raised of an equal height with the rampart.

Void and hollow BASTIONS are those that are only surrounded with a rampart and parapet, having the space within void and empty, where the ground is so low, that if the rampart be taken, no retrenchment can be made in the center, but what will lie under the fire of the besiegers.

Flat BASTION is a bastion built in the middle of the curtain, when it is too long to be defended by the bastion at its extremes.

Cut BASTION is that whose point is cut off, and instead thereof has a re-entering angle, or an angle inwards with two points outwards, and is used, either when without such a contrivance the angle would be too acute, or when water or some other impediment hinders the carrying on the bastion to its full extent.

Composed BASTION is when two sides of the interior polygon are very unequal, which makes the gorges also unequal.

Deformed BASTION is when the irregularity of the lines and angles makes the bastion out of shape, as when it wants one of its demigorges, one side of the interior polygon being too short.

Demi BASTION is composed of one face only, and but one flank, and a demi-gorge.

Double BASTION is that which is raised on the plane of another bastion.

Regular BASTION is that which has its true proportion of faces, flanks, and gorges.

BASTION DE FRANCE, a fortress in the kingdom of Tunis, subject to France. It is situated about eighty miles west of the city of Tunis, in 8° east longit. and 36° 30′ north latitude.

BASSTOIGNE, a town of the Netherlands, in the province of Luxemburg, situated in 5° 26′ east longitude, and 50° north latitude.

BASTON, in law, one of the servants to the warden of the fleet-prison, who attends the king's courts with a red staff, for taking into custody such as are committed by the court. He also attends on such prisoners as are permitted to go at large by licence.

BASTON, or BATOON, in architecture, a moulding in the base of a column, called also a tore.

BASTON, or BATOON, in heraldry, a kind of bend, having only one third of the usual breadth.

The baston does not go from side to side, as the bend or scarf does, being in the form of a truncheon. Its use is a note or mark of bastardy. See plate XXVI. fig. 8.

BASTONADE, or BASTINADO, a kind of punishment inflicted by beating the offender with a stick. This sort of beating, among the antient Greeks and Romans, was the punishment commonly inflicted on criminals that were freemen, as that of whipping was on the slaves. We find some instances of this sort of discipline among the Hebrews; and it is a penalty used in the east even at this day.

BAT, *vespertilio*, in zoology. See the article VESPERTILIO.

Sea-BAT, in ichthyology, the englifh name of a fpecies of *acarauna*, caught in the american feas.

BAT, BATE, or BATZ, a fmall copper coin, mixed with a little filver, current in feveral cities of Germany: it is worth four crutzers. It is alfo a coin of Switzerland, current at five livres, or one hundred fols, french money.

BATABLE GROUND, that land which lay between Scotland and England, when the kingdoms were diftinct, to which both nations pretended a right.

BATACALO, a fort and town on the eaftern coaft of the ifland of Ceylon, in 81° eaft longitude, and 8° north latit.

BATASECK, a town of the lower Hungary, fituated on the Danube, about feventy miles fouth of Buda, in 19° 45′ eaft longitude, and 46° 30′ north latitude.

BATAVIA, the capital of all the dutch colonies and fettlements in the Eaft Indies. It is fituated on the eaft part of the ifland of Java, and has an excellent harbour, in 106° eaft longit. and 6° fouth latitude.

BATCHELOR, or BACHELOR, a man who ftill continues in the ftate of celibacy, or who was never married.

BATCHELOR was antiently a denomination given to thofe who had attained to knighthood, but had not a number of vaffals fufficient to have their banner carried before them in the field of battle: or if they were not of the order of bannerets, were not of age to difplay their own banner, but obliged to march to battle under another's banner. It was alfo a title given to young cavaliers, who having made their firft campaign, received the military girdle accordingly. And it ferved to denominate him who had overcome another in a tournament, the firft time he ever engaged.

Knights BATCHELORS were fo called, as being the loweft order of knights, or inferior to bannerets.

BATCHELORS, in an univerfity-fenfe, are perfons that have attained to the baccalaureat; or who have taken the firft degree in the liberal arts and fciences. Before a perfon can be admitted to this degree at Oxford, it is neceffary that he ftudy there four years; three years more may entitle him to the degree of mafter of arts; and in feven years more he may commence batchelor of divinity. At Cambridge the degrees are ufually taken much the fame as at Oxford, excepting in law and phyfic, in either of which the batchelor's degree may be taken in fix years. In France, the degree of batchelor of divinity is attained in five years ftudy, that is, in two years of philofophy, and three of divinity.

BAT-FOWLING, a method of catching birds in the night, by lighting fome ftraw, or torches, near the place where they are at rooft; for upon beating them up, they fly to the flame, where being amazed, they are eafily caught in nets, or beat down with bufhes fixed to the end of poles, &c.

BATH, *balneum*, a fufficient quantity of water collected in fome convenient receptacle, for people to wafh in, either for health or pleafure.

Baths are diftinguifhed into natural and artificial, and natural again into hot and cold.

Hot BATHS, called by the antients thermæ, owe their origin partly to the admixture of fulphureous particles, while the water is paffing through its fubterraneous canals, and partly to the fumes and vapours exhaling through the pores of the earth, where fulphur is either pure or impure, as in coals, amber, iron, nitre, &c. The chief hot baths in our country are thofe at Bath, near Wells, in Somerfetfhire; and thofe at Buxton and Matlock, in Derbyfhire.

In the city of Bath are four hot baths: one triangular, called the crofs bath, the heat of which is more gentle than that of the reft, becaufe it has fewer fprings in it; the fecond is the hot bath, which was formerly much hotter than the reft, but it was then not fo large as at prefent: the other two are the king and queen's bath, divided only by a wall; the laft having no fpring, but receiving its water from the king's bath: each of thefe is furnifhed with a pump, to throw out the water upon the difeafed, where that is required.

Thefe waters abound with a mineral fulphur; they are hot, of a bluifh colour, and ftrong fcent, and fend forth a thin vapour: they do not pafs through the body like moft other mineral waters: though, if falt be added, they purge prefently. On fettlement, they afford a black mud, which is ufed by way of cataplafm in aches, and proves of more fervice to fome than the waters themfelves: the like they depofite on diftillation, and no other: the crofs-bath preys on filver, all of them on iron, but none on brafs.

The

The ufe of thefe baths is found beneficial in diforders of the head, as palfies, &c. in cuticular difeafes, as leprofies, &c. obftructions and conftipations of the bowels, the fcurvy, and ftone, and in moft difeafes of women and children; they are ufed as a laft remedy in obftinate chronic difeafes, where they fucceed well, if they agree with the conftitution of the patient.

Of the three hot european waters of note, *viz.* Aix-la-Chapelle, Bourbon, and Bath, the firft abounds more eminently in fulphur, which makes its heat, naufeoufnefs, and purgative faculty fo great, that few ftomachs can bear its heat and naufeoufnefs, and fewer weak conftitutions the violence of its purging.

The Bourbon are of a middle nature, between the Aix-la-Chapelle and the Bath waters; being lefs hot, naufeous, and purgative than thofe of Aix-la-Chapelle; but more fo than the Bath waters. The Bath waters partake lefs of the fulphur, and more of the fteel, than thofe two, and are of confequence by far the moft pleafant and moft effectual.

Cold BATHS were, by the antients, held in the greateft efteem; and though they were long banifhed out of medicine, the prefent age can boaft of abundance of noble cures performed by them, and fuch as were long attempted in vain by the moft powerful medicine.

The cold bath is ferviceable in moft chronic diforders; it always acts the part of a diuretic, and will do more, efpecially plunging over head in fea water, in the cure of melancholy, madnefs and particularly that occafioned by the bite of a mad dog, than any other medicine. There is nothing of greater ufe in the cure of frigidity, when occafioned by excefs of venery, than the cold bath. It contributes much to the cure of a gonorrhæa, and fluor albus; and is fuccefsful in a palfy.

Artificial BATHS are various, according to the various occafions: as aqueous baths, vaporous baths, dry baths, &c. Aqueous baths are made from common plants, and other emollient, refolvent, and nervine fubftances; confifting fometimes of milk and emollient herbs, with rofe-water, &c. when the defign is to humectate, or when it is only to cleanfe, it confifts of bran and water alone; and when it is for an exceffive pain or tumour, &c. in thefe cafes it confifts of a decoction of roots, plants, and fome fpirit of wine.

In vapour-baths, the defign of which is to promote a perfpiration, the fteam or fume of fome decoction is received upon fome part of the body for that purpofe. In thefe baths, there is no part of the patient's body plunged into the decoction, only thofe parts which require it, are properly difpofed to receive the fteams of fome proper fomentation. Of this kind are the bagnios, where perfons are made to fweat by the heat of a room, and pouring on of hot water.

Vapour-baths are of fingular fervice in cold diftempers, anafarca's œdematous tumours, paralytic cafes, fwellings of the tefticles, &c.

Dry baths are made of afhes, falt, fand, fhreds of leather, &c.

This bath is fuccefsful in provoking fweat in a plentiful manner, the patient being placed conveniently for the reception of the fumes: it is found ufeful in removing old obftinate pains, and is very effectual in venereal complaints.

BATH, *Balneum*, among chemifts. See the article BALNEUM.

BATH, in hebrew antiquity, a meafure of capacity, containing the tenth part of an omer, or feven gallons and four pints, as a meafure for things liquid: or three pecks and three pints, as a meafure for things dry.

BATH, in architecture, fuperb buildings erected for the fake of bathing.

Thofe buildings, among the antients, were moft pompous and magnificent; fuch were thofe of Titus, Paulus Emilius, and Dioclefian, whofe ruins are ftill remaining.

BATH, in geography, a city of Somerfetfhire, fituated on the river Avon, ten miles eaft of Briftol: weft longitude 2° 30′, and north latitude 51° 30′.

It has been long famous for its excellent baths.

Knights of the BATH, a military order in England, fuppofed to have been inftituted by Richard the IId. who limited the number of knights to four: however, his fucceffor, Henry IV. increafed them to forty-fix. Their motto is *Tria juncta in uno*, fignifying the three theological virtues.

This order received its denomination from a cuftom of bathing before the knights received the golden fpur. They wear a red ribband beltwife, appendant

to which is the badge or fymbol of the order which is a fceptre, rofe, thiftle, and three imperial crowns conjoined within a circle, upon which circle is the motto, and all of pure gold. Each knight wears a filver ftar of eight points upon the left breaft of his upper garment.

The order of the bath, after remaining many years extinct, was revived under George the firft, by a folemn creation of a great number of knights.

BATH-KOL, the daughter of a voice. So the Jews call one of their oracles, which is frequently mentioned in their books, efpecially the Talmud, being a fantaftical way of divination invented by the Jews themfelves, not unlike the *fortes virgilianæ* of the heathens. However, the jewifh writers call this a revelation from God's will, which he made to his chofen people, after all verbal prophecies had ceafed in Ifrael.

BATH-METAL, a mixed metal, otherwife called prince's metal. See the article *Prince*'s METAL.

BATH-WATER. See the article BATH.

BATHING, the wafhing, foaking, fuppling, refrefhing, moiftening, *&c.* the body or any part thereof, in water, liquor, *&c.* for pleafure or health. See the article BATH.

Tho' bathing hath been ufed with advantage in moft cafes, yet there is fcarce any, but, in fome circumftances, it would be prejudicial: fo that to apply it with the greateft advantage, it will be neceffary to enquire what alterations are made by it in a human body. It is well known that heat relaxes, and that cold, on the contrary, contracts and braces the bodies it is applied to: the effects of cold bathing is attributed not only to its chilnefs, and conftringing power, but, in fome meafure to the weight of the water. For fuppofe a perfon immerged two feet, and the area of his fkin fifteen feet, he fuftains a weight of water, added to that of the air, equal to 2280 *lib.* troy. Befides, the water in bathing, enters the body, mixes with the blood, and dilutes all the juices.

BATHING A FALCON is when weaned from her ramage fooleries, fhe is offered fome water to bathe herfelf in a bafon, where fhe may ftand up to her thighs. By this means, fhe gathers ftrength and boldnefs.

BATHMUS, βαθμὸς, in anatomy denotes the cavity of a bone, fitted to receive the prominence of another bone.

BATMAN, in commerce, a kind of weight ufed at Smyrna, containing fix okes of four hundred drams each, which amount to fixteen pounds, fix ounces, and fifteen drams of englifh weight.

BATON, or BASTON. See BASTON.

BATRACHOMYOMACHIA, the battle of the frogs and the mice, the title of a fine burlefque poem, ufually afcribed to Homer.

The fubject of the work is the death of Pfycharpax, a moufe, fon to Toxartes, who being mounted on the back of Phyfignathus, a frog, on her voyage to her palace, to which fhe had invited him, was feized with fear, when he faw himfelf in the middle of the pond, fo that he tumbled off and was drowned. Phyfignathus being fufpected to have fhaken him off with defign, the mice demanded fatisfaction, and unanimoufly declared war againft the frogs.

BATTALIA, denotes an army drawn up in order of battle. See the articles ARMY and BATTLE.

BATTALION, a fmall body of infantry, ranged in form of battle, and ready to engage.

A battalion ufually contains from 5 to 800 men; but the number it confifts of is not determined. They are armed with firelocks (pikes being quite laid afide) fwords and bayonets; and divided into thirteen companies, one of which is grenadiers. They are ufually drawn up with three men in file, or one before another. Some regiments confift but of one battalion, others are divided into four or five.

BATTATA, or POTATOE. See the article POTATOE.

BATTEL, a town of Suffex, fix miles north of Haftings: eaft longitude 35′, and north latitude 50° 55′.

BATTEN, a name that workmen give to a fcantling of wooden ftuff, from two to four inches broad, and about one inch thick; the length is pretty confiderable, but undetermined.

This term is chiefly ufed in fpeaking of doors and windows of fhops, *&c.* which are not framed of whole deal, *&c.* with ftyles, rails, and pannels like wainfcot, but are made to appear as if they were, by means of thefe battens, bradded on the plain board round the edges, and fometimes crofs them, and up and down.

BATTENBURG, a town of dutch Guelderland, fituated on the north fhore of the

the river Maese, almost opposite to Ravenstein: east longitude 5° 30', and north latitude 51° 45'.

BATTERING, the attacking a place, work, or the like, with heavy artillery.

To batter in breach, is to play furiously on a work, as the angle of a half moon, in order to demolish and make a gape therein. In this they observe never to fire a piece at the top, but all at the bottom, from three to six feet from the ground.

The battery of a camp is usually surrounded with a trench, and pallisadoes at the bottom, with two redoubts on the wings, or certain places of arms, capable of covering the troops which are appointed for their defence. See the article BATTERY.

BATTERING-PIECES, or pieces of battery. See the article CANNON.

BATTERING-RAM, in antiquity. See the article RAM.

BATTERING-RAMS, in heraldry, a bearing, or coat of arms, resembling the military engine of the same name. See plate XXVI. fig. 9.

BATTERY, in the military art, a parapet thrown up to cover the gunners, and men employed about the guns, from the enemy's shot. This parapet is cut into embrassures, for the cannon to fire through. The height of the embrassures, on the inside, is about three feet: but they go sloping lower to the outside. Their wideness is two or three feet, but open to six or seven on the outside. The mass of earth that is betwixt two embrassures, is called the merlon. The platform of a battery is a floor of planks and sleepers, to keep the wheels of the guns from sinking into the earth; and is always made sloping towards the embrassure, both to hinder the reverse, and to facilitate the bringing back of the gun.

BATTERY *of mortars* differs from a battery of guns, for it is sunk into the ground, and has no embrassures.

Cross BATTERIES are two batteries, which play athwart one another, upon the same thing, forming there an angle, and beating with more violence and destruction; because what one bullet shakes, the other beats down.

BATTERY *sunk or buried*, is when its platform is sunk, or let down into the ground, so that there must be trenches cut in the earth, against the muzzles of the guns, for them to fire out at, and to serve for embrassures.

BATTERY *d'enfilade* is one that scours, or sweeps the whole length of a straight line.

BATTERY *en echarpe* is that which plays obliquely.

BATTERY *de reverse*, that which plays upon the enemy's back.

Camerade BATTERY is when several guns play at the same time upon one place.

BATTERY, in law, the striking, beating, or offering any violence to another person, for which damages may be recovered. But if the plaintiff made the first assault, the defendant shall be quit, and the plaintiff amerced to the king for his false suit.

Battery is frequently confounded with assault, tho', in law, they are different offences; for in the trespass for assault and battery, one may be found guilty of assault, yet acquitted of the battery; there may therefore be assault without battery, but battery always implies an assault. See the article ASSAULT.

BATTER, a kind of paste made up of flour, water, eggs, &c. to make cakes, puddings, &c.

BATTEURS *d'estrade*, or SCOUTS, are horse-men sent out before, and on the wings of an army, one, two, or three miles, to make discoveries.

BATTLE, a general engagement between two armies, in a country sufficiently open for them to encounter in front, and at the same time; or, at least, for the greater part of the line to engage.

Other great actions, though of a longer duration, and even attended with a greater slaughter, are only called fights.

The loss of a battle frequently draws with it that of the artillery and baggage; the consequence of which is, that as the army beaten cannot again look the enemy in the face, till these losses have been repaired, it is forced to leave the enemy a long time master of the country, and at liberty to execute all their schemes; whereas a great fight lost, is rarely attended with the loss of all the artillery, and scarce ever of the baggage.

Naval BATTLE, the same with a sea-fight, or engagement between two fleets of men of war.

Before a naval battle, every squadron usually subdivides itself into three equal divisions, with a reserve of certain ships, out of every squadron, to bring up their rear. Every one of these, observing a due birth and distance, are in the battle to second one another; and the better to avoid confusion and falling foul of each other,

other, to charge, difcharge, and fall off, by threes or fives, more or lefs, as the fleet is greater or fmaller. The fhips of referve are inftructed either to fuccour and relieve thofe that are any way in danger; or to fupply, and put themfelves in the place of thofe that fhall be made unferviceable.

As for a fleet confifting but of few fhips, when obliged to fight in an open fea, it fhould be brought up to battle in only one front, with the chief admiral in the middle of them, and on each fide of him the ftrongeft and beft provided fhips of the fleet. See SIGNALS and BOARDING.

BATTLE is alfo ufed figuratively, for a reprefentation of a battle in fculpture, painting, and the like.

Line of BATTLE, *order of* BATTLE, fee the articles LINE and ARMY.

Square BATTLE. See SQUARE.

BATTLE-ROYAL, in cock-fighting, a fight between three, five, or feven cocks, all engaged together, fo that the cock which ftands longeft, gets the day.

BATTLE-AX, *fecuris danica*, a kind of halbard, firft introduced into England by the Danes.

BATTLEMENTS, in architecture, are indentures or notches in the top of a wall, or other building, in the form of embraffures, for the fake of looking through them.

BATTOLOGY, in grammar, a fuperfluous repetition of fome words or things.

BATTON, BATOON, or BASTON. See the article BASTON.

BATTORY, in commerce, a name given by the Hanfe towns to their country houfes and warehoufes in foreign countries. The principal battories were at London, Archangel, Novogrod, Lifbon, Venice, and Antwerp.

BATTUS, an order of penitents at Avignon, and in Provence, whofe piety carries them to exercife very fevere difcipline upon themfelves, both in public and private.

BATUECOS, or LOS BATUECOS, a people of Spain in the kingdom of Leon, that inhabit the mountains between Salamanca and Corica, and are thought to be defcended from the Goths.

BATZ, a copper coin mixed with fome filver, and current at different rates, according to the alloy, in Nuremberg, Bafil, Fribourg, Lucerne, and other cities of Germany and Switzerland.

BAVARIA, one of the circles of the german empire, lying between Auftria on the eaft, and Swabia on the weft. The duke of Bavaria is one of the nine electors. See the article ELECTOR.

BAUHINIA, in botany, a genus of plants of the decandria-monogynia clafs, the flower of which confifts of five lanceolated, undulated petals, with attenuated and reflex tops, the lower ones fomewhat the larger, and ftanding on ungues of the length of the calyx; the fruit is a long cylindric legumen, having one cell, and containing numerous round compreffed feeds, that run longitudinally along the pod.

BAVINS, in the military art, denote brufh-faggots, with the brufh at length.

BAUM, MELISSA, in botany. See the article MELISSA.

BAUTZEN, the chief town of Lufatia in Germany, about thirty-five miles north eaft of Drefden: eaft longitude 14° 30′, north latitude 51° 15′.

BAWD, a woman who keeps a bawdy-houfe, or who conducts criminal intrigues. See the next article.

BAWDY-HOUSE, a houfe of ill fame, to which lewd perfons of both fexes refort, and there have criminal converfation.

The keeping a bawdy-houfe is a common nufance, not only on account that it endangers the public peace, by drawing together debauched and idle perfons; and promoting quarrels, but likewife for its tendency to corrupt the manners of the people. And therefore, perfons convicted of keeping bawdy-houfes, are punifhable by fine and imprifonment; alfo liable to ftand in the pillory, and to fuch other punifhment, as the court, at their difcretion, fhall inflict.

BAY, in geography, an arm of the fea, fhooting up into the land, and terminating in a nook. It is a kind of leffer gulph, bigger than a creek, and is larger in its middle within than at its entrance. The largeft and moft noted bays in the world are thofe of Bifcay, Bengal, Hudfon's, Panama, *&c.*

BAY, among farmers, a term ufed to fignify the magnitude of a barn, as if a barn confifts of a floor and two heads, where they lay corn, they call it a barn of two bays. Thefe bays are from fourteen to twenty feet long.

BAY denotes likewife a pond head, made to keep in ftore of water for driving the wheels of the furnace or hammer belonging to an iron-mill, by the ftream that comes thence thro' a floodgate called the pen-ftock.

Bay is alſo one of the colours of the hair of horſes, inclining to red, and coming pretty near the colour of a cheſnut. There are five different gradations of the bay colour, *viz.* cheſnut-bay, light-bay, yellow-bay or dun-bay, bloody-bay, which is alſo called ſcarlet-bay, and the brown-bay.

Bay, among huntſmen. Deer are ſaid to ſtand at bay, when after being hard run, they turn head againſt the hounds.

Bay-yarn, a denomination ſometimes given to woollen-yarn. See Yarn.

Bay-Tree, } See the articles { Laurus.
Bay-Salt, } { Salt.

BAYEUX, a city of Normandy, in France, about fifteen miles north-weſt of Caen; weſt longitude 50′, north latitude 49° 20′.

BAYONET, in the military art, a ſhort broad dagger, formerly with a round handle fitted for the bore of a firelock, to be fixed there after the ſoldier had fired; but they are now made with iron handles and rings, that go over the muzzle of the firelock, and are ſcrewed faſt, ſo that the ſoldier fires with his bayonet on the muzzle of his piece, and is ready to act againſt horſe.

BAYONNE, a large city of Gaſcony, in France, ſituated on the river Adour, near the bay of Biſcay, in 1° 20′ weſt longitude, and 43° 30′ north latitude.

BAYS, in commerce, a ſort of open woollen ſtuff, having a long knap, ſometimes frized, and ſometimes not. This ſtuff is without wale, and is wrought in a loom with two treddles, like flannel. It is chiefly manufactured at Colcheſter and Bocking in Eſſex, where there is a hall called the Dutch bay-hall, or raw-hall. The exportation of bays was formerly much more conſiderable than at preſent, that the French have learned to imitate them. However, the Engliſh bays are ſtill ſent in great quantities to Spain and Portugal, and even to Italy. Their chief uſe is for dreſſing the monks and nuns, and for linings, eſpecially in the army. The looking-glaſs makers alſo uſe them behind their glaſſes, to preſerve the tin or quickſilver; and the caſe-makers to line their caſes. The breadth of bays is commonly a yard and a half, a yard and three quarters, or two yards, by 42 to 48 in length. Thoſe of a yard and three quarters are moſt proper for the ſpaniſh trade.

BAZAR, Bazari, or Bazaard, a place deſigned for trade among the eaſtern nations, particularly the Perſians, ſome of which are open at top, like the market places of Europe; others are covered with high vaulted ceilings, and adorned with domes to give light. In the firſt, they ſell only the leſs precious and moſt bulky commodities; whereas in the latter, are the ſhops of thoſe merchants who ſell jewels, rich ſtuffs, wrought plate, &c.

BAZAS, a Town of Guienne, in France, about thirty miles ſouth of Bourdeaux: weſt lon. 15′, and north lat. 44° 20′.

BAZAT, or Baza, in commerce, a long fine ſpun cotton, which comes from Jeruſalem, whence it is alſo called jeruſalem-cotton.

BDELLIUM, a gum reſin, ſomewhat reſembling myrrh in appearance, brought from the Levant. It is met with in ſingle drops, of a very irregular ſize, ſome of which are as large as a hazel nut. Its colour is duſky, and its taſte bitteriſh. People are no more agreed about the true nature of bdellium than they are about the manner how it is produced: and it is much doubted whether the bdellium of the antients be the ſame with the modern kind. It is allowed to be an emollient and diſcutient, and to be a powerful aperient and detergent, according to its age; for it is more ſo when new and freſh, than afterwards.

BEACHY-HEAD, a cape or promontory on the coaſt of Suſſex, between Haſtings and Shoreham.

BEACON, a public ſignal, to give warning againſt rocks, ſhelves, invaſions, &c. See the article Signals.

It is made by putting pitch barrels upon a long pole, and they put upon an eminence, ſo as they may be ſeen afar off; for the barrels being fired, the flame, in the night-time, and the ſmoke, in the day, give notice, and in a few hours may alarm the whole kingdom, upon an approaching invaſion, &c.

BEACONAGE, a tax, or farm paid for the uſe and maintainance of a beacon. Trinity-houſe is empowered to levy this tax by act of parliament.

BEACONSFIELD, a market town of Buckinghamſhire, twenty-two miles weſt of London: weſt longitude 30′, and north latitude 51° 30′.

BEAD, a ſmall glaſs ball, made in imitation of pearl, and uſed in necklaces, &c.

Bead, in architecture, a round moulding, commonly made upon the edge of a piece of ſtuff, in the corinthian and roman orders, cut or carved in ſhort emboſſments, like beads in necklaces.

Sometimes a plain bead is ſet on the edge

edge of each fascia of an architrave, and sometimes likewise an astragal is thus cut. A bead is often placed on the lining-board of a door-case, and on the upper edges of skirting-boards.

Bead-proof, among distillers, a fallacious way of determining the strength of spirits, from the continuance of the bubbles, or beads, raised by shaking a small quantity of them in a phial. See Proof.

Bead-roll, among papists, a list of such persons for the rest of whose souls they are obliged to repeat a certain number of prayers, which they count by means of beads.

BEADLE, a messenger, or apparitor of a court, who cites persons to appear, and answer in the court to what is alledged against them.

Beadle is also an officer at an university, whose chief business it is to walk before the masters with a mace, at all public processions, *&c.*

BEAGLE, the name of a particular kind of hunting-dogs, of which there are several sorts, *viz.* the southern beagle, which is something less than the deep-mouthed hound, and something thicker and shorter; the fleet northern, or cat beagle, which is smaller, and of a finer shape than the southern beagle, and is a hard runner: there is also a very small beagle, not bigger than a lady's lap-dog.

BEAK, *rostrum*, the bill or nib of a bird, from the form and structure of which, Linnæus divides this whole family, or general class of animals, into six orders See Bird and Ornithology.

Beak, in architecture, the small fillet left on the head of a larmier, which forms a canal, and makes a kind of pendant.

Chin **Beak**, a moulding the same as the quarter-round, except that its situation is inverted: this is very frequent in modern buildings, though few examples of it are found in the antient.

Beak, or **Beak-head**, of a ship, that part without the ship, before the fore-castle, which is fastened to the stem, and is supported by the main knee.

BEAKED, in heraldry, a term used to express the beak or bill of a bird. When the beak and legs of a fowl are of a different tincture from the body, we say, beaked and membered of such a tincture.

BEAKING, among cock-fighters, is when one cock holds another by his bill, and strikes him with his spurs or gafflers at the same time.

BEAM, in architecture, the largest piece of wood in a building, which lies cross the walls, and serves to support the principal rafters of the roof, and into which the feet of these rafters are framed. No building has less than two of these beams, *viz.* one at each end. Into these the girders of the garret roof are also framed; and if the building be of timber, the teazle tenons of the posts are framed into them. The proportion of beams in or near London, are fixed, by statute, as follows: a beam fifteen feet long, must be seven inches on one side its square, and five on the other: if it be sixteen feet long, one side must be eight inches, the other six, and so proportionably to their lengths. In the country, where wood is more plenty, they usually make their beams stronger.

Beams of a ship, are the great main cross-timbers which hold the sides of the ship from falling together, and which also support the decks and orlops: the main beam is next the main mast, and from it they are reckoned by first, second, third beam, *&c.* the greatest beam of all, is called the mid-ship beam. See Ship.

Beam compass, an instrument consisting of a square wooden or brass beam, having sliding sockets, that carry steel or pencil points: they are used for describing large circles, where the common compasses are useless.

Beam, in heraldry, the term used to express the main horn of a hart or buck.

Beam, among hunters, the main stem of a deer's head, or that part which bears the antlers, royals, and tops.

Beam is also the name of a sort of fiery meteor in the shape of a pillar; also a ray of the sun.

Beam-filling, in building, the filling up of the vacant space between the raison and roof, with stones or bricks laid between the rafters on the raison, and plastered on with loam, where the garrets are not pargeted or plastered, as in country places, where they do not parget or plaster their garrets.

Beam *of an anchor*, the longest part of it, called also the shank. See Anchor.

Beam-feathers, in falconry, the longest feathers of a hawk's wing.

Beam-fish, a sea-monster, like a pike, a dreadful enemy to mankind, seizing like a blood-hound, and never letting go, if he gets fast hold. The teeth of this fish are so venomous, that unless an antedote be

Fig. 1. BARBED *CROSS*.

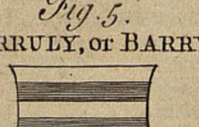


Fig. 2. BARON'S *CORONET*.

Fig. 3. BAR.



Fig. 4. BAR GEMEL.



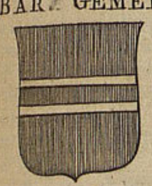


Fig. 5. BARRULY, or BARRY.



Fig. 6 BARRY-BENDY.

Fig. 7. BASALTES.

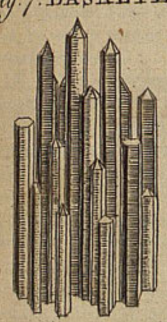
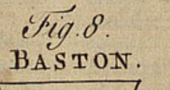


Fig. 8. BASTON.



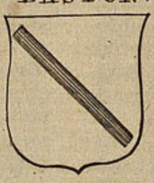


Fig. 9. BATTERING RAMS.



Fig. 10. BEAR, *URSUS*.



Fig. 11. BELEMNITÆ.





J. Jefferys sculp

be immediately applied, the leaſt touch of them is mortal.

BEAM alſo denotes the lath, or iron, of a pair of ſcales; ſometimes the whole apparatus for weighing of goods is ſo called: thus we ſay, it weighs ſo much at the king's beam.

BEAM *of a plough*, that in which all the parts of the plough-tail are fixed.

It is commonly made of aſh, and is eight feet long, but in the four coultered plough it is ten feet long. See PLOUGH.

BEAM, or ROLLER, among weavers, a long and thick wooden cylinder, placed lengthways on the back part of the loom of thoſe who work with a ſhuttle.

That cylinder, on which the ſtuff is rolled as it is weaved, is alſo called the beam or roller, and is placed on the fore part of the loom.

BEAN, *faba*, in botany, makes a diſtinct genus of plants, according to Tournefort, but is comprehended by Linnæus under vicia. See the article VICIA.

Beans of all kinds ought to be ſown much thinner than is the common practice, by which means the produce will be greatly increaſed.

BEAR, *urſus*, in zoology, a genus of quadrupeds, of the order of the *feræ*, or beaſts of prey; diſtinguiſhed by having only four teats, two on the breaſt, and two on the belly; alſo feet formed for climbing or walking, with five toes on each.

The tail of a common bear is abrupt; its fore teeth are of a conic figure: the canine teeth are placed at a diſtance from the grinders, and are two on each ſide; and the penis is long.

It is a large, but unſightly animal, and grows to different ſizes, in different places, from that of a maſtiff dog, to that of a ſmall heifer. It is covered with a thick and deep fur; the head is large and long; the neck ſhort, and very thick; the eyes are ſmall, the thighs are long, but the under part of the legs ſhort, and it has a knee-pan at that joint. It is a native of America, and of many of the northern parts of Europe. See plate XXVI. fig. 10.

There is another bear, with an elongated tail, frequent in the northern parts of Europe, and is otherwiſe much the ſame with that already deſcribed.

BEAR, *urſa*, in aſtronomy. See URSA.

BEAR, in heraldry. He that has a coat of arms is ſaid to bear in it the ſeveral charges or ordinaries that are in his eſcutcheon.

BEAR, in gunnery. A piece of ordnance is ſaid to come to bear, when it lies right with, or directly againſt the mark.

BEARALSTON, a borough of Devonſhire, ſituated on the river Tamar, about ten miles north of Plymouth: weſt longitude 4° 30′, north latitude 50° 35′. It ſends two members to parliament.

BEAR'S BREECH, in botany, the Engliſh name of a genus of plants called by botaniſts acanthus. See ACANTHUS.

BEARD, the hair growing on the chin, and adjacent parts of the face, chiefly of adults and males. See HAIR.

Various have been the ceremonies and cuſtoms of moſt nations in regard of the beard. The Tartars, out of a religious principle, waged a long and bloody war with the Perſians, declaring them infidels, merely becauſe they would not cut their whiſkers, after the rite of Tartary: and we find, that a conſiderable branch of the religion of the antients, conſiſted in the management of their beard.

Eccleſiaſtics have ſometimes been enjoined to wear, and at other times have been forbid the wearing, the beard; and the greek and romiſh churches have been a long time by the ears, about their beards. To let the beard grow, in ſome countries, is a token of mourning, as to ſhave it is the like in others.

The Greeks wore their beards till the time of Alexander the great, that prince having ordered the Macedonians to be ſhaved, for fear it ſhould give a handle to their enemies: the Romans did not begin to ſhave till the year of Rome 454. Nor did the Ruſſians cut their beards till within theſe few years, that Peter the great, notwithſtanding his injunction upon them to ſhave, was obliged to keep on foot a number of officers to cut off, by violence, the beards of ſuch as would not otherwiſe part with them.

BEARD *of a comet*, the rays which the comet emits towards that part of the heaven to which its proper motion ſeems to direct it: in this the beard of a comet is diſtinguiſhed from the tail, which is underſtood of the rays emitted towards that part from whence its motion ſeems to carry it.

BEARDED HUSK, among floriſts, is a roſe huſk, or other ſuch like huſks that are hairy on the edges.

BEARD *of a horſe*, that part underneath the lower mandible on the outſide and above the

the chin, which bears the curb. It is alſo called the chuck.

It ſhould have but little fleſh upon it, without any chops, hardneſs or ſwelling, and neither too high raiſed nor too flat, but ſuch as the curb may reſt in its right place.

BEARER, in a general ſenſe, one that carries burdens, letters, &c.

BEARER, in architecture, a poſt, or brick wall, trimmed up between the two ends of a piece of timber, to ſhorten its bearing, or to prevent its bearing with the whole weight at the ends only.

BEARER *of a bill of exchange*, the perſon in whoſe hands the bill is, and in favour of whom the laſt order was made.

When a bill is made payable to the bearer, it is underſtood to be payable to him in whoſe hands it is, after it becomes due. See the article BILL.

BEARERS, in heraldry. See the article SUPPORTERS.

BEARERS is alſo applied to thoſe who are appointed, by every pariſh, to carry the corps of dead perſons to the grave.

BEARING, in navigation and geography, the ſituation of one place from another, with regard to the points of the compaſs; or the angle which a line, drawn thro' the two places, makes with the meridians of each.

The bearings of places on the ground, are uſually determined from the magnetic needle, in the managing of which conſiſts the principal part of ſurveying, ſince the bearing or diſtance of a ſecond point from a firſt being found, the place of that ſecond is determined; or the bearings of a third point from two others, whoſe diſtance is known, being found, the place of the third is determined inſtrumentally. But to calculate trigonometrically, there muſt be more data.

BEARING, in the ſea language. When a ſhip ſails towards the ſhore, before the wind, ſhe is ſaid to bear in with the land or harbour. To let the ſhip ſail more before the wind, is to bear up. To put her right before the wind, is to bear round. A ſhip that keeps off from the land, is ſaid to bear off. When a ſhip that was to windward comes under another ſhip's ſtern, and ſo gives her the wind, ſhe is ſaid to bear under her lee, &c. There is another ſenſe of this word, in reference to the burden of a ſhip; for they ſay a ſhip bears, when having too ſlender or lean a quarter, ſhe will ſink too deep into the water with an over light freight, and thereby can carry but a ſmall quantity of goods.

BEARING *of a piece of timber*, among carpenters, the ſpace either between the two fixed extremities thereof, when it has no other ſupport, which they call bearing at length, or between one extreme and a poſt, brick wall, &c. trimmed up between the ends to ſhorten its bearings.

High BEARING *cock*, one larger than the cock he fights with.

BEARING *claws*, among cock-fighters, the foremoſt toes of a cock. If theſe are hurt or gravelled, he cannot fight.

BEARN, a province in the ſouth of France, bounded by Gaſcony on the north, and by the Pyrenean mountains, which ſeparate it from Spain, on the ſouth.

BEAST, *la bête*, among gameſters, a game at cards, played in this manner: the beſt cards are the king, queen, &c. whereof they make three heaps, the king, the play, and triolet.

Three, four, or five may play; and to every one is dealt five cards. However, before the play begins, every one ſtakes to the three heaps. He that wins moſt tricks, takes up the heap called the play: he that hath the king, takes up the heap ſo called; and he that hath three of any ſort, that is, three fours, three fives, three ſixes, &c. takes up the triolet-heap.

BEAST, in a general ſenſe, an appellation given to all four-footed animals, fit either for food, labour, or ſport.

BEASTS of burden, in a commercial ſenſe, all four-footed animals which ſerve to carry merchandizes on their backs. The beaſts generally uſed for this purpoſe, are elephants, dromedaries, camels, horſes, mules, aſſes, and the ſheep of Mexico and Peru.

BEASTS of the chace are five, *viz.* the buck, the doe, the fox, the roe, and the martin.

BEASTS and *fowls* of the warren are the hare, the coney, the pheaſant, and partridge.

BEASTS of the foreſt are the hart, hind, hare, boar, and wolf.

BEAT, in a general ſignification, ſignifies to chaſtiſe, ſtrike, knock, or vanquiſh.

This word has ſeveral other ſignifications in the manufactures, and in the arts and trades. Sometimes it ſignifies to forge and hammer, in which ſenſe ſmiths and farriers ſay, to beat iron; ſometimes it means to pound, to reduce into powder: thus we ſay, to beat drugs,

to

to beat pepper, to beat fpices; that is to fay, to pulverife them.

Beat, in fencing, denotes a blow or ftroke given with the fword. See Beating.

There are two kinds of beats; the firft performed with the foible of a man's fword on the foible of his adverfary's, which in the fchools is commonly called *baterie*, from the French *batre*, and is chiefly ufed in a purfuit, to make an open upon the adverfary. The fecond and beft kind of beat is performed with the fort of a man's fword upon the foible of his adverfary's, not with a fpring, as in binding, but with a jerk, or dry beat; and is therefore moft proper for the parades without or within the fword, becaufe of the rebound a man's fword has thereby from his adverfary's, whereby he procures to himfelf the better and furer opportunity of rifpofting.

Beat, in the manege. A horfe is faid *to beat the duft*, when, at each ftroke or motion, he does not take in ground or way enough with his fore-legs. He is more particularly faid to *beat* the duft at *terra a terra*, when he does not take in ground enough with his fhoulders, making his ftrokes or motions too fhort, as if he made them all in one place. He *beats the duft* at curvets, when he does them too precipitately, and too low. He *beats upon a walk*, when he walks too fhort, and thus rids but little ground, whether it be in ftreight lines, rounds, or paffings.

Beat *upon the hand*, in the manege. See the article Chack.

Beat *of drum*, in the military art, is to give notice by beat of drum of a fudden danger; or, that fcattered foldiers may repair to their arms and quarters, is to beat an alarm, or to arms; alfo to fignify, by different manners of founding a drum, that the foldiers are to fall on the enemy; to retreat before, in, or after an attack; to move, or march, from one place to another; to treat upon terms, or confer with the enemy; to permit the foldiers to come out of their quarters at break of day; to order to repair to their colours, &c. is to beat a charge, a retreat, a march, &c.

BEATER is applied, in matters of commerce, to divers forts of workmen, whofe bufinefs is to hammer or flatten certain matters, metals, or the like.

In this fenfe we meet with gold-beater, plafter-beater, cement-beater, mortar-beater, &c.

BEATIFIC vision. See Vision.

BEATIFICATION, among papifts, an act by which the pope declares a perfon beatified, or bleffed, after death.

This is the firft ftep towards canonization, and differs from it; becaufe in the former, the pope does not act as a judge, determining the ftate of the beatified, but only gives a privilege to certain perfons to honour him by a particular religious worfhip, without incurring the penalty of fuperftitious worfhip: whereas in canonization, the pope fpeaks like a judge, and determines upon the ftate of the canonized.

No perfon can be beatified till fifty years after his or her death; all certificates or atteftations of virtues and miracles are examined before the congregation of rites: the examination continues for feveral years, after which his holinefs decrees the beatification. The corps and relics of the future faint are thenceforth expofed to the veneration of every body; his images are crowned with rays, and a particular office is fet apart for him.

BEATING, in a general fenfe, the chaftizing, or punifhing a perfon for a real or fuppofed offence.

Beating, or Pulsation, in medicine, the reciprocal agitation, or palpitation of the heart, or pulfe. See Pulse.

There are fome phyficians that diftinguifh eighty-one different pulfations, and fifteen compound ones. They compute fixty beats in the fpace of one minute in a temperate man; but it is certain, that generally we find a greater number.

Beating *gold and filver*. See Gold.

Beating with hunters, a term ufed of a ftag, which runs firft one way, and then another. He is then faid to beat up and down.

The noife made by conies in rutting time is alfo called beating or tapping.

Beating, in fencing. See Beat.

Beating differs from binding, as the latter is performed with a kind of fpring, and that, in performing it, a man keeps by, and engages more his adverfary's fword, than when he beats; for which reafon binding is chiefly proper when a man intends to become the purfuer; whereas beating, being performed by a kind of jerk, or dry ftroke, is chiefly defigned for the defenfive part, or parade, that a man may hereby return the quicker rifpofte from it; feeing his fword, if the beat be rightly performed, will, in fome meafure, rebound from his adverfary's

ſword, and ſo aſſiſt him to make the quicker riſpoſte. Add, that the jerk or dry beat upon the parade forces the adverſary's ſword conſiderably out of the ſtreight line, which makes the riſpoſte ſtill the more certain, and which cannot be done with near that certainty nor ſtrength with the ordinary french parade, within and without the ſword from the quarte guard.

Beating *time*, in muſic, a method of meaſuring and marking the time for performers in concert, by a motion of the hand or foot up and down ſucceſſively, and in equal times. Knowing the true time of a crotchet, and ſuppoſing the meaſure actually ſubdivided into four crotchets, and the half meaſure into two, the hand or foot being up, if we put it down with the very beginning of the firſt note or crotchet, and then raiſe it with the third, and then down with the beginning of the next meaſure; this is called beating the time; and by practice, a habit is acquired of making this motion very equal. Each down and up is ſometimes called a time, or meaſure.

The general rule is, to contrive the diviſion of the meaſure ſo, that every down and up of the beating ſhall end with a particular note, on which very much depends the diſtinctneſs, and, as it were, the ſenſe of the melody. Hence the beginning of every time, or beating in the meaſure, is reckoned the accented part thereof.

Beating time is denoted, in the Italian muſic, by the term *a battuta* which is uſually put after what they call *recitativo*, where little or no time is obſerved, to denote, that here they are to begin again to mark or beat the time exactly.

BEATS, in a watch or clock, are the ſtrokes made by the fangs or pallets of the ſpindle of the balance, or of the pads in a royal pendulum. To find the beats of the balance in all watches going, or in one turn of any wheel. Having found the number of turns which the crown-wheel makes in one turn of the wheel you ſeek for, thoſe turns of the crown-wheel multiplied by its notches, give half of the number of beats in that one turn of the wheel. For the balance or ſwing has two ſtrokes to every tooth of the crown-wheel, inaſmuch as each of the two pallets hath its blow againſt each tooth of the crown-wheel; whence it is that a pendulum that beats ſeconds has in its crown-wheel only thirty teeth.

To explain this, ſuppoſe the numbers of a ſixteen-hour watch, in which the pinion of report is 4, the dial-wheel 32, the great wheel 55, the pinion of the ſecond wheel 5, &c. The number of the notches in the crown-wheel 17 being multiplied into 6336 (the product ariſing from the continual multiplication of the quotients 8, 11, 9, 8) gives 107712 for half the number of beats in one turn of the dial-wheel; for 8 times 17 is 136, which is half the number of beats in one turn of the centrate wheel 40; and 9 times 136 is 1224, the half beats in one turn of the ſecond wheel; and 11 times 1224, is 13464, the half beats in one turn of the great wheel 55; and 8 times 13464 makes 107712. If you multiply this by the two pallets, that is, double it, the product will be 215424, which is the number of beats in one turn of the dial-wheel, or twelve hours.

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4)32(8
5)55(11
5)45(9
5)40(8
     17
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To know how many beats this watch has in an hour, divide the beats in twelve hours into twelve parts, and it gives 17952, the train of the watch, or beats in an hour. By the beats and turns of the fuſy, the hours that any watch will go, may be found thus. As the beats of the balance in one hour: are to the beats in one turn of the fuſy : : ſo is the number of the turns of the fuſy : to the continuance of the watch's going. Thus 20196 : 26928 : : 12 : 16.

To find the beats of the balance in an hour, the proportion is, as the hours of the watch's going, to the number of the fuſy : : ſo are the beats in one turn of the fuſy : to the beats in an hour. Thus, 16 : 12 : : 26928 : 20196.

BEAUCAIRE, a town of Languedoc, ſituated on the weſtern ſhore of the river Rhone, about ſeven miles north of Arles: eaſt longitude 4° 40′ and north latitude 43° 40′.

BEAUCE, the northern diviſion of the province of Orleanois, in France.

BEAVER, fiber, in zoology, a genus of quadrupeds, of the order of the glires, called by Linnæus caſtor. See Castor.

The beaver has two very different ſorts of hair, *viz.* one kind long and coarſe, and another ſoft and fine; and of this laſt it is, that the fine beaver-hats are manufactured.

BEAUFET, or Buffet. See the article Buffet.

BEAUFORT, a town of the dutchy of Anjou in France, ſituated fifteen miles eaſt

east of Angers: east longitude 15′, and north latitude 47° 30′.

BEAUFORT is alſo a town of Savoy, about thirty miles eaſt of Chamberry: eaſt longitude 6° 40′, and north latit. 45° 30′.

BEAUGENCY, a town of Orleanois, in France; ſituated on the river Loire, about fifteen miles ſouth-weſt of Orleans, in 1° 36′ eaſt long. and 47° 48′ north latitude.

BEAUJEU, a town of the Lyonois in France, about twenty-five miles north-weſt of Lyons: eaſt longitude 4° 30′, and north latitude 46° 15′.

BEAUJOLOIS, the ſouth-eaſt diviſion of the Lyonois, and ſo called from Beajeu.

BEAUMARIS, a market town of Angleſey in Wales; ſituated about nine miles north of Bangor, in 4° 15′ weſt longitude, and 53° 25′ north latitude.

BEAUMONT, a town of Hainalt, about ſeventeen miles ſouth-eaſt of Mons: eaſt longitude 4° 15′ and north latitude 50° 20′.

BEAUMONT is alſo a town of France, about ſixteen miles ſouth of Alençon: eaſt longitude 5′, and north latitude 48° 20′.

BEAU-PLEADER, a writ upon the ſtatute of Marlbridge, whereby it is ordained, that no fine ſhall be taken of any perſon in any court, for fair-pleading; that is, for not pleading fairly, and to the purpoſe. Beau-pleadings is in reſpect to vicious pleadings.

BEAUTY, a general term for whatever excites in us pleaſing ſenſations, or an idea of approbation.

Hence the notion annexed to beauty may be diſtinguiſhed into ideas and ſenſations, the former of which occupy the mind; the latter affect the heart: thus, an object may pleaſe the underſtanding without intereſting the ſenſe; and on the other hand, we perceive agreeable ſenſations, excited by ſome objects, whoſe ideas are no way related to any thing that is praiſeworthy.

It is, on account of theſe diſtinctions, that the difficulty lies of fixing an univerſal characteriſtic of beauty, in regard that the perſons vary, according to their different turns of mind, and habitudes of body, and conſequently the relations of objects to thoſe ideas and ſenſations do in like manner vary; whence ariſe the different opinions of beauty in painting, women, &c.

BEAUTY, in architecture, painting, and other arts, is the harmony and juſtneſs of the whole compoſition taken together.

BEAUTY of Chriſt's perſon, among divines, has been a ſubject of great diſpute in all ages of the church; ſome magnifying the external beauty of his body, others defending the literal meaning of Iſaiah's deſcription of the Meſſiah, as without form and comelineſs.

BEAUVIN, a city of Burgundy, in France, about fifteen miles north of Chalons: eaſt longitude 4° 50′, and north latitude 47°.

BEAUVOIR, a port-town of France, about twenty-five miles ſouth-weſt of Nantz: weſt longitude 2° and north latitude 47°.

BEAUVOIS, a city of the iſle of France, about forty-three miles north of Paris: eaſt long. 2° 20′ and north lat. 49° 30′.

BECAH, or BEKAH, in hebrew antiquity, a jewiſh coin, equal to $13\frac{11}{16}d.$ of our money.

BECALM, in a general ſenſe, ſignifies to appeaſe, to allay.

BECALM, in the ſea language. A ſhip is ſaid to be becalmed, when there is not a breath of wind to fill the ſails, which is occaſioned either by its being taken off by the interpoſition of the ſhore, or for want of any wind ſtirring.

BECANER, the capital of the territory of Becar in India, ſituated on the river Ganges, in 83° eaſt longitude, and 28° north latitude.

BECHICS, medicines deſigned to relieve coughs, being the ſame with what we call pneumonics, thoracics, expectorants, and pectorals. See the articles EXPECTORANTS and PECTORALS.

BED, a convenience for ſtretching and compoſing the body on, for eaſe, reſt, or ſleep, conſiſting generally of feathers incloſed in a ticken caſe. There are varieties of beds, as a ſtanding bed, a ſettee-bed, a tent-bed, a truckle-bead, &c.

All beds that are for ſale, muſt be filled with one ſort of ſtuffing only, on the pain of forfeiture; as the mixing of feathers, down, ſcalded feathers, dry pulled feathers, any ways together, is conceived to be contagious for a man's body to lie on. Alſo, bed-quilts, mattraſſes, and cuſhions, ſtuffed with horſe-hair, fen-down, goats-hair, and neats-hair, which are dreſſed in lime, and in which the heat of a man's body will exhale, and cauſe to yield a noxious ſmell, are prohibited by ſtatute.

The antient Romans had various ſorts of beds, for various purpoſes: they had their chamber-bed, whereon they ſlept; their table-bed, whereon they eat, as they always eat lying; there being uſually three perſons to one bed, whereof the middle place, as well as the middle bed, was accounted the moſt honourable: they had alſo

alſo the bed whereon they ſtudied, and that whereon the dead were carried to the funeral pile.

Bed *of juſtice*, in the french cuſtoms, a throne upon which the king is ſeated, when he goes to the parliament. The king never holds a bed of juſtice unleſs for affairs that concern the ſtate, and then all the officers of parliament are cloathed in ſcarlet robes.

Bed *of the carriage of a great gun*, a thick plank, that lies under the piece; being, as it were, the body of the carriage.

Bed, in maſonry, a courſe, or range of ſtones; and the joint of the bed is the mortar between two ſtones, placed over each other.

Bed, in gardening, thoſe ſquare or oblong pieces of ground, in a garden, raiſed a little above the level of the adjoining ground, and wherein they ſow ſeeds, or plant-roots.

Hot-bed. See the article Hot-bed.

Beds *of minerals*, certain ſtrata or layers of matter diſpoſed over each other.

Bed *of ſnakes*, a name given by hunters, to a knot of young ones.

Bed-chamber. See the articles Chamber and Apartment.

Lords of the Bed-chamber, in the britiſh cuſtoms, ten lords who attend in their turns, each a week; during which time they lie in the king's bed-chamber, and wait on him when he dines in private.

BEDAL, a market-town of Yorkſhire, eight miles ſouth of Richmond: weſt longit. 1° 20′, north latit. 54° 20′.

BEDEREPE, a cuſtomary ſervice, by which tenants were antiently bound to reap their landlord's corn in harveſt time.

BEDFORD, the county town of Bedfordſhire, ſituated on the river Ouſe, about twenty-two miles ſouth-weſt of Cambridge, in weſt longitude 20′, and north latitude 52° 10′.

BEDLAM, or Bethlehem. See the article Bethlehem.

BED MOULDING, in architecture, a term uſed for thoſe members of a corniche, which are placed below the coronet; and now a days a bed-moulding uſually conſiſts of an ogee, a liſt, a large boultine, and another liſt under the coronet.

BEDOUINS, in the arabian cuſtoms, tribes of Arabs, who live in tents, and are diſperſed all over Arabia, Ægypt, and the north of Africa.

BEDWIN, a borough-town of Wiltſhire, about eighteen miles north-weſt of Saliſbury, in weſt longitude 1° 40′, and north latitude 51° 25′.

BEE, *apis*, in zoology. See Apis.

Authors enumerate a great many ſpecies of this inſect, but the common hive-bee merits particular conſideration.

Theſe are of three ſorts, *viz.* 1. The queen-bee, which is ſomewhat larger, and of a brighter red than the reſt. Her buſineſs is to conduct a new ſwarm, and depoſit eggs for another brood; and ſo great is her fertility, that ſhe frequently brings forth many thouſands of young in a year. 2. The drones which have no ſtings, are of a darker colour than the reſt, and are thought to be the males. 3. The honey-bees, or working-bees, which are by far more numerous than the other two kinds.

Concerning the breeding and management of bees, together with the produce of their induſtry, ſee the articles Swarm, Hive, Hiving, Honey, Wax, &c.

Bee-eater, *merops*, in zoology. See the article Merops.

Bee-fly, or Drone-fly. See the article Drone-fly.

BEECH, *fagus*, in botany. See Fagus.

The wood of the beech-tree is of a whitiſh-colour, and much coveted by turners for making ladles, trays, bellows, &c.

Beech-galls, hard protuberances found on the leaves of the beech, wherein are lodged the maggots of a certain fly.

Beech-mast, the fruit of the beech-tree, ſaid to be good for fattening hogs, deer, &c.

Beech-oil, an oil drawn by expreſſion, from the maſt of the beech-tree, after it has been ſhelled and pounded.

This oil is very common in Picardy, and uſed there, and in other parts of France, inſtead of butter; but moſt of thoſe who take a great deal of it, complain of pains and a heavineſs of the ſtomach.

BEELE, a kind of pick-ax, uſed by the miners for ſeparating the ores from the rocks in which they lie: this inſtrument is called a tubber by the miners of Cornwall.

BEER, a common and well-known liquor, made with malt and hops, and uſed in thoſe parts of Europe where vines will not grow, and where cyder is ſcarce. See the articles Malt, Brewing, &c.

It is chiefly diſtinguiſhed from ale by the quantity of hops, which is greater in beer, and thereby renders the liquor bitterer, and fitter to keep.

There are various differences in beer, pro-

proceeding from the ways of brewing, from the different countries or climates, from the water that is ufed, from the time fpent about it, from the ingredients made ufe of, and the proportions of thefe ingredients.

That beer is reckoned the beft which is clear, and of a pale colour, of a pungent and agreeable tafte, that fparkles upon being poured into a glafs, and is neither too old or too new.

Aigre-BEER is ufed by callico-printers, chemifts, lapidaries, fcarlet-dyers, vinegar-merchants, and white-lead men.

Bottling of BEER is beft performed in this manner: Firft, take clear water, or fuch as has been well impregnated with the effence of fome herb; to every quart of which add half a pound of fugar. Afterwards, having caufed this water to be gently boiled and fcummed, add a few cloves: let it cool in order to have barm or yeaft put to it, and being brought to work, take off the fcum again. That done, while it is in a fmiling condition, put three fpoonfuls into each bottle; which is to be filled up with beer, and fecurely corked. A few cryftals of tartar do alfo very well in bottled beer; efpecially if a few drops of the effence of barley, wine, or fome effential fpirits be added.

BEER, among weavers, a term that fignifies nineteen ends of yarn, running all together the whole length of the cloth.

BEER-MEASURE. See the article MEASURE.

BEESTINGS, a term ufed by country-people for the firft milk taken from a cow after calving.

BEET, *beta*, in botany, a genus of plants, of the *pentandria-digynia* clafs, with no flower-leaves: the fruit is a capfule placed within the bafe of the cup, with one cell, containing a fingle kidney-fhaped compreffed feed, and furrounded every way with the cup. The beet is more ufed as a pot-herb than phyfically. It is one of the five emollient herbs.

BEETLE, *fcarabæus*, in the hiftory of infects. See the article SCARABÆUS.

BEETLE alfo denotes a wooden inftrument for driving piles, *&c.*

It is likewife called a ftamper, and by paviors a rammer.

BEFORT, a town of Alface, fubject to France, and fituated about fifteen miles north of Bafil, in eaft longitude 7°, and north latitude 47° 35′.

BEG, or BEY, in the turkifh affairs. See the article BEY.

BEGGAR, one who begs alms.

Beggars pretending to be blind, lame, *&c.* found begging in the ftreets, are to be removed by conftables; and if they refufe to be fo removed, fhall be publicly whipt.

BEGHARDI, *beguardi*, a certain fect of heretics, which arofe in Germany, and in the Low-countries, about the end of the thirteenth century. They made profeffion of monaftical life, without obferving celibacy; and maintained, if they are not fcandalized by the monks, that man could become as perfect in this life, as he fhall be in heaven; that every intellectual nature is of itfelf happy, without the fuccour of grace; and that he who is in this ftate of perfection ought to perform no good works, nor worfhip the hoft.

BEGLERBEG, a governor of one of the principal governments in the turkifh empire. There are two forts of beglerbegs; the one have a certain revenue affigned upon the cities, buroughs and villages of their government, which they raife by power of the commiffion granted to them by the fultan; the others have a certain rent paid by the treafurer of the grand fignior. They are become almoft independent, and have under their jurifdiction, feveral fangiacs or particular governments, and begs, agas, and other officers who obey them.

BEGONIA, in botany, a genus of the polygamia monoecia clafs of plants, without any calyx; the corolla of the male flower confifts of four patent regular petals, that of the hermaphrodite flower confifts of five oblong heart-fhaped patent petals; the fruit is a trigonal capfule, divided into three cells, and containing a great number of fmall feeds.

BEGUINS, congregations of devout young women, who maintain themfelves by the work of their hands, leading a middle kind of life between the fecular and religious. Thefe focieties confift of feveral houfes placed together in one inclofure, with one or more churches, according to the number of beguins.

There is in every houfe a priorefs, without whofe leave they cannot ftir out. Their vow is conceived in thefe terms: *I promife to be obedient and chafte, as long as I continue in this beguinage.* They obferve a three years novitiate, before they take the habit, and the rector of the pa-

rifh

with is their superior, but can do nothing without the advice of eight beguins.

They are established in several parts of Flanders.

BEHEADING, *decollatio*, a capital punishment, inflicted by cutting off the head with an ax, sword, &c.

Among the Romans beheading was a military punishment performed at first with an ax, but afterwards with a sword, as done at present in Holland and France. In England the ax is preferred, and in Scotland they use, for this purpose, a machine called a maiden. See MAIDEN.

BEHEN, in the materia medica, the name of two roots, the one white, the other red; both accounted cordials and restoratives, but the white one to possess these qualities in the highest degree. They are likewise said to be good in nervous cases; but to what plant they belong is not known.

BEJA, a city of Alentejo, in Portugal, west longitude 8° 40′, and north latitude 37° 55′.

BEICHLINGEN, a city of Thuringia, in the circle of upper Saxony in Germany: east long. 11° 25′, and north lat. 51° 20′.

BEILA, a town of Piedmont in Italy, about thirty-two miles north of Turin: east long. 7° 45′, and north lat. 45°.

BEILSTEIN, a town of the landgraviate of Hesse in Germany; situated about thirty-two miles north of Mentz, in 8° east longitude, and 50° 30′ north lat.

BEIRA, a province of Portugal, lying between Entre-minho-Duro, on the north, and Estremadura on the south.

BEIZA, or BEIZATH, in hebrew antiquity, a word signifying an egg, was a certain measure in use among the Jews. The beiza was likewise a gold coin, weighing forty drachms, among the Persians, who gave out that Philip of Macedon owed their king Darius a thousand beizaths or golden eggs for tribute-money; and that Alexander the Great refused to pay them, saying, that the bird which laid these eggs was flown into the other world.

BELCASTRO, a city of Calabria, in the kingdom of Naples: east longitude 17° 15′, and north latitude 39° 15′.

BELCOE, a town of Ireland, situated on Lough-ninny, in the county of Farmanagh, and province of Ulster: west longitude 8° 6′, and north latitude 54° 5′.

BELEM, a fortress on the north side of the river Tagus, about three miles west of Lisbon.

BELEMNITÆ, or BELEMNITES, in natural history, usually called thunder-bolt, is of the number of those fossils, concerning which naturalists still dispute whether it be of marine and animal origin, or a native fossile substance.

The belemnitæ, are all composed of several thin coats or crusts, encircling one another, and all of a striated texture; they have usually a hollow in the middle, of a conical shape; sometimes empty, and sometimes filled up with spar, pyrites, or a marine shell of the strait concamerated kind. They have usually a chink running down the whole length of the body, and sometimes two or three, but the additional ones usually begin at the apex of the stone, and run up but a little way. Their figure is sometimes conic, sometimes cylindric: some are of all the intermediate figures between conic and cylindric, and some almost orbicular. They are of various sizes, from a quarter of an inch to eight inches in length, and though always of the same structure, are of various colours, and they have a peculiar smell when scraped.

Belemnitæ are found in all sorts of strata, sometimes in clay, sometimes among gravel, often immersed in beds of stone, often in loose flints, and are sometimes found covered with a sparry crust of a different texture from that of the body of the mass. See plate XXVI. fig. 11.

BELEZERO, the capital of a province of the same name, in Russia, situated on the south east shore of the white lake: east longitude 36°, and north lat. 60° 50′.

BELFAST, a port-town of Ireland, in the county of Antrim, and province of Ulster: west longitude 6° 15′, north latitude 54° 38′.

BELFRY, that part of a steeple where bells are hung, or the timber frame whereby they are supported.

BELGARDEN, a town of eastern Pomerania, in Germany, subject to Prussia: east longitude 16° 5′, and north lat. 54°.

BELGOROD, the capital of a province of the same name, in Russia, situated almost in the middle of that empire: east longitude 37°, and north latitude 51° 20′.

BELGOROD is also a fortified town of Bessarabia, in Turky; situated on the Black-sea, at the mouth of the river Neister: east longitude 31°, and north latitude 46° 30′.

BELGRADE, the capital of the province of Servia, in european Turky; situated on the south side of the Danube, in east longitude 21° 20′, and north lat. 45°.

It was yielded to the Turks in 1739.

BELI *oculus*, in natural hiſtory. See the article OCULUS.

BELIEF, in a general and natural ſenſe, ſignifies a perſuaſion or ſtrong aſſent of the mind to any propoſition; but, in a more reſtrained and technical ſenſe, it imports that kind of aſſent which is founded on the authority or teſtimony of ſome perſons atteſting the truth of any matter propoſed.

Belief is generally diſtinguiſhed into divine and human, not with regard to the propoſition believed, but with regard to the teſtimony on which we believe it. When God reveals any thing to us, this gives us the teſtimony of divine belief. See the article FAITH.

But what man only acquaints us with, produces only a human belief. See the article EVIDENCE.

BELL, a well known machine, ranked by muſicians among the muſical inſtruments of percuſſion.

The metal of which a bell is made, is a compoſition of tin and copper, or pewter and copper: the proportion of one to the other is almoſt twenty pounds of pewter, or twenty-three pounds of tin, to one hundred weight of copper.

Bell metal is prohibited to be imported, as are hawk-bells, *&c.*

The conſtituent parts of a bell are the body or barrel, the clapper on the inſide, and the ear or cannon on which it hangs to a large beam of wood.

The ſound of a bell conſiſts in a vibratory motion of its parts, much like that of a muſical chord. The ſtroke of the clapper muſt neceſſarily change the figure of the bell, and of a round make it oval; but the metal having a great degree of elaſticity, that part will return back again which the ſtroke drove fartheſt off from the center, and that even ſome ſmall matter nearer the center than before; ſo that the two parts which before were extremes of the longeſt diameter, do then become thoſe of the ſhorteſt; and thus the external ſurface of the bell undergoes alternate changes of figure, and by that means gives that tremulous motion to the air, in which the ſound conſiſts.

M. Perrault aſſerts, that the ſound of the ſame bell is a compound of the ſound of the ſeveral parts of it; ſo that where the parts are homogeneous, and the dimenſions of the figure uniform, there is ſuch a perfect mixture of all theſe ſounds, as conſtitutes one uniform, ſmooth, even ſound, and the contrary circumſtances produce harſhneſs. To confirm this, he obſerves the different tune of the bell, according to the part of it that is ſtruck, and yet ſtrike it where you will there is a motion of all the parts. He therefore conſiders bells as compoſed of an infinite number of rings, which have different tones according to their different dimenſions, as chords of different lengths have; which, when ſtruck, the vibrations of the parts immediately ſtruck determine the tone; being ſupported by a ſufficient number of conſonant tones in other parts.

It has been found by experience, that bells are heard further, if placed on plains, than on hills, and ſtill farther in vallies than on plains; the reaſon of which may be eaſily comprehended, by conſidering, that the higher the ſonorous body is, the medium is the rarer, and conſequently receives the leſs impulſe, and the vehicle is the leſs proper to convey it to a diſtance.

The bell-founders diſtinguiſh two ſorts of proportions, *viz.* the ſimple, and the relative. The ſimple proportions are thoſe which ought to be between the ſeveral parts of a bell, and which experience has ſhewed to be neceſſary towards rendering it ſweetly ſonorous. The relative proportions are thoſe which eſtabliſh a requiſite relation between one bell and another, ſo that their combined ſounds may effect a certain determined harmony.

The uſe of bells is very antient, as well as extenſive. We find them among the Jews, Greeks, Romans, Chriſtians, and Heathens, variouſly applied, as on the necks of men, beaſts, birds, horſes, ſheep; but chiefly hung in buildings, either religious, as in churches, temples, and monaſteries; or civil, as in houſes, markets, baths; or military, as in camps and frontier towns.

In the antient monaſteries, we find ſix kinds of bells enumerated by Durandus, *viz. Squilla,* rung in the refectory; *cymbalum*, in the cloiſter; *nola*, in the choir; *nolula* or *dupla*, in the clock; *campana*, in the ſteeple; and *ſignum*, in the tower.

Diving BELL. See DIVING-BELL.

BELL FOUNDERY. See the article FOUNDERY OF BELLS.

BELL-FLOWER, *campanula*, in botany. See the article CAMPANULA.

BELL-WEED, *jacea nigra*, in botany. See the article JACEA.

BELLADONA, in botany, a genus of the pentandria-monogynia claſs of plants, call-

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de by Linnæus atropa. See the article ATROPA.

The flower consists of a single infundibuliform petal, divided into five segments at the mouth; and its fruit is a bilocular globose berry, containing a number of kidney-shaped seeds. See plate XXVII, fig. 1.

BELLCLARE, a town of Ireland in the county of Sligo, and province of Connaught, about twenty-three miles south-west of Sligo: west longitude 9° 5′, and north latitude 53° 55′.

BELLENTS, a city of Switzerland, in east longitude 9°, and north latitude 46°.

BELLESM, a town of the Orleanois in France: east long. 40′, north lat. 48° 30′.

BELLEY, a town of Burgundy, in France, situated on the frontiers of Savoy, about sixteen miles north-west of Chamberry: east longit. 5° 20′, north lat. 45° 40′.

BELLEVILLE, a town of the Lyonois, in France, about nineteen miles north of Lyons: east longitude 4° 45′, north latitude 46° 8′.

BELLIS, DAISY, in botany, a genus of the *syngenesia polygamia-superflua* class of plants, the compound flower of which is radiated, and the particular hermaphrodite one of a funnel shape: it has no other pericarpium than the cup; in which is contained a single oval compressed seed, placed vertically. See plate XXVII. fig. 2.

Culture produces a great number of variations in the colour and duplicature of the flower, all of which have been described by authors as different species; whence this plant has been divided into almost fifty.

BELLEISLE, an island on the coast of Britany, in France: west longitude 8°, and north latitude 47° 20′.

BELLISLE is also an island of America, on the coast of New Britain.

It gives name to the streights which separate Newfoundland from New Britain: west longitude 58° north latitude 52°.

BELLON, a distemper common in countries where they smelt lead ores.

It is attended with languor, intolerable pains and sensation of gripings in the belly, and generally costiveness.

Beasts, poultry, &c. as well as men, are subject to this disorder: hence a certain space round the smelting-houses is called bellon-ground, because it is dangerous for an animal to feed upon it.

The method of cure, which has been found most successful in this distemper, is giving crystals of tartar in small doses, and repeating the dose two or three times a day.

BELLONARII, in roman antiquity, the priests of Bellona, who, in honour of that goddess, used to make incisions in their body; and after having gathered the blood in the palm of their hand, give it to those who were partakers of their mysteries.

BELLONIA, in botany, a genus of the *pentandria-monogynia* class of plants, whose flower, consisting of a single petal, is of the rotated kind; the fruit is a capsule of a turbinato-oval figure, surrounded by the cup, and containing only one cell, in which are numerous very small roundish seeds.

BELLOWING, among sportsmen, denotes the noise of roes in rutting-time.

BELLOWS, a machine so contrived as to agitate the air with great briskness, exspiring and inspiring it by turns, and that only from enlarging and contracting its capacity.

This machine is used in chambers and kitchens, in forges, furnaces and founderies, to blow up the fire: it serves also for organs and other pneumatic instruments, to give them a proper degree of air: all these are of various constructions, according to their different purposes, but in general they are composed of two flat boards, sometimes of an oval, sometimes of a triangular figure: two or more hoops, bent according to the figure of the boards, are placed between them; a piece of leather, broad in the middle, and narrow at both ends, is nailed on the edges of the boards, which it thus unites together: as also on the hoops which separate the boards, that the leather may the easier open and fold again; a tube of iron, brass, or copper is fastened to the undermost board, and there is a valve within that covers the holes in the underboard, to keep in the air.

Each pair of bellows imported is valued in the book of rates at three shillings and four-pence, and pays duty $7\frac{20}{100}$d. whereof $6\frac{72}{100}$d. is drawn back on exportation.

BELLUNO, the capital of the Bellunese, in the dominions of Venice, about forty miles north of Padua: east longitude 12° 40′, and north latitude 46° 20′.

BELLY, in anatomy, the same with what is more usually called abdomen, or rather the cavity of the abdomen. See the article ABDOMEN.

BELOMANCY, a ſort of divination by means of arrows, practiſed in the eaſt, and particularly in Arabia.

Belomancy has been performed different ways, whereof one was this: ſuppoſe a parcel of arrows, eleven or more of them being put into a bag; theſe were afterwards drawn out, and according as they were marked or not, they judged of future events.

BELT, *balteus*, in the military art, a leathern girdle for ſuſtaining the arms, *&c.* of a ſoldier.

BELTS, in aſtronomy, two zones, or girdles, ſurrounding the body of the planet of Jupiter, more lucid than the reſt, and of unequal breadth.

BELTS, in geography, certain ſtreights between the German ocean, and the Baltic. The belts belong to the king of Denmark, who exacts a toll from all ſhips which paſs through them, excepting thoſe of Sweden, which are exempted.

BELTURBET, a town of Ireland, in the county of Cavan and province of Ulſter, ſituated upon the river Earn, about eight miles north of Cavan, in 7° 35′ weſt longitude, and 54° 7′ north latitude.

BELTZ, the capital of a palatinate of the ſame name, in the province of Red Ruſſia, in Poland: eaſt longitude 24°, and north latitude 50° 5′.

BELVIDERE, in the italian architecture, *&c.* denotes either a pavilion on the top of a building, or an artificial eminence in a garden; the word literally ſignifying a fine proſpect.

BELVIDERE, in geography, the capital of a province of the ſame name, on the weſtern coaſt of the Morea, in 22° eaſt longitude, and 37° north latitude.

BEMA, in eccleſiaſtical antiquity, denoted the moſt ſacred part of a church, or that where the altar ſtood.

BEMA was alſo uſed for the biſhop's throne, as well as for the ambo. See AMBO.

BEMSTER, a market-town of Dorſetſhire, about twelve miles north-weſt of Dorcheſter, ſituated in 2° 50′ weſt longitude, and 50° 45′ north latitude.

BENCH, or BANC, in law. See BANC.

Free-BENCH ſignifies that eſtate in copyhold lands, which the wife, being eſpouſed a virgin, has after the deceaſe of her huſband, for her dower, according to the cuſtom of the manor. As to this free-bench, ſeveral manors have ſeveral cuſtoms; and in the manors of Eaſt and Weſt Enbourne, in the county of Berks, and other parts of England, there is a cuſtom, that when a copyhold tenant dies, the widow ſhall have her free-bench in all the deceaſed huſband's lands, whilſt ſhe lives ſingle and chaſte; but if ſhe commits incontinency, ſhe ſhall forfeit her eſtate: nevertheleſs, upon her coming into the court of the manor, riding on a black ram, and having his tail in her hand, and at the ſame time repeating a form of words preſcribed, the ſteward is obliged, by the cuſtom of the manor, to re-admit her to her free-bench.

King's-BENCH. See KING's-BENCH.

BENCHERS, in our inns of court, the ſenior members of the ſociety, who are inveſted with the government thereof.

BENCOOLEN, a town and fort on the ſouth-weſt coaſt of Sumatra, belonging to the Eaſt-India company, from whence great quantities of pepper are imported. [illegible] ſituated in 101° eaſt longitude, and [illegible] latitude.

B[illegible] heraldry, one of the nine honourable ordinaries, containing a third part of the field when charged, and a fifth when plain. It is ſometimes, like other ordinaries, indented, ingrailed, *&c.* and is either dexter or ſiniſter.

BEND *dexter* is formed by two lines drawn from the upper part of the ſhield on the right, to the lower part of the left, diagonally. It is ſuppoſed to repreſent a ſhoulder belt, or a ſcarf, when worn over the ſhoulder. See plate XXVII. fig. 3.

BEND *ſiniſter* is that which comes from the left ſide of the ſhield to the right: this the french heralds call a barre. See plate XXVII. fig. 3.

In BEND is when any things, borne in arms, are placed obliquely from the upper corner to the oppoſite lower, as the bend lies.

Parti per BEND, *Point in* BEND, *&c.* See the articles PARTI and POINT.

BENDER, a town of Beſſarabia, in european Turky, ſituated on the river Neiſter, in 29° eaſt longitude, and 46° 40′ north latitude.

BENDING, in a general ſenſe, the reducing a ſtreight body into a curve, or giving it a crooked form.

The bending of timber, boards, *&c.* is effected by means of heat, whereby their fibres are ſo relaxed that you may bend them into any figure.

BENDING, in the ſea-language, the tying two ropes or cables together: thus they ſay, bend the cable, that is, make it faſt to the ring of the anchor; bend the ſail, make it faſt to the yard.

BENDITTO, a town of the Mantuan, in Italy, ſituated near the ſouth ſhore of the river Po, about twelve miles ſouth-eaſt of Mantua,

Mantua, in 11° 20′ eaſt longitude, and 45° north latitude.

BENDS, in a ſhip, the ſame with what is called wails, or wales; the outmoſt timbers of a ſhip's ſide, on which men ſet their feet in climbing up. They are reckoned from the water, and are called the firſt, ſecond, or third bend. They are the chief ſtrength of a ſhip's ſides, and have the beams, knees, and foot-hooks bolted to them.

BENDY, in heraldry, is the field divided into four, ſix, or more parts, diagonally, and varying in metal and colour.

The general cuſtom of England is to make an even number, but in other countries they regard it not, whether even or odd. See plate XXVII. fig. 4.

Counter BENDY is uſed by the French, to expreſs what we ordinarily call bendy of ſix per bend ſiniſter, counterchanged.

Barry BENDY } See the articles { BARRY.
Paly BENDY } { PALY.

BENEAPED, among ſailors. A ſhip is ſaid to be beneaped when the water does not flow high enough to bring her off the ground, out of the dock, or over the bar.

BENEDICTINES, in church-hiſtory, an order of monks, who profeſs to follow the rules of St. Benedict.

The benedictines, being thoſe only that are properly called monks, wear a looſe black gown, with large wide ſleeves, and a capuche, or cowl, on their heads, ending in a point behind. In the canon law, they are ſtiled black friers, from the colour of their habit.

The rules of St. Benedict, as obſerved by the engliſh monks before the diſſolution of the monaſteries, were as follows; they were obliged to perform their devotions ſeven times in twenty-four hours, the whole circle of which devotions had a reſpect to the paſſion and death of Chriſt; they were obliged always to go two and two together; every day in lent they were obliged to faſt till ſix in the evening, and abated of their uſual time of ſleeping and eating; but they were not allowed to practiſe any voluntary auſterity without leave of their ſuperior; they never converſed in their refectory at meals, but were obliged to attend to the reading of the ſcriptures: they all ſlept in the ſame dormitory, but not two in a bed; they lay in their cloaths: for ſmall faults they were ſhut out from meals; for greater, they were debarred religious commerce, and excluded from the chapel; and as to incorrigible offenders, they were excluded from the monaſteries. Every monk had two coats, two cowls, a table-book, a knife, a needle, and a handkerchief; and the furniture of their bed was a mat, a blanket, a rug, and a pillow.

BENEDICTION, or BLESSING. The Hebrews, under this name, underſtand the preſent uſually ſent from one friend to another, as alſo the bleſſing conferred by the patriarchs, on their death-beds, upon their children.

The privilege of benediction was one of thoſe early inſtances of honour and reſpect paid to biſhops in the primitive church. The cuſtom of bowing the head to them, and receiving their bleſſings was become univerſal. In the weſtern churches there was antiently a kind of benediction which followed the Lord's prayer; and after the communion, the people were diſmiſſed with a benediction.

BENEFICE, *beneficium*, in an eccleſiaſtical ſenſe, a church endowed with a revenue, for the performance of divine ſervice; or the revenue itſelf aſſigned to an eccleſiaſtical perſon, by way of ſtipend, for the ſervice he is to do that church.

All church-preferments, except biſhoprics, are called benefices; and all benefices are, by the canoniſts, ſometimes ſtiled dignities: but we now ordinarily diſtinguiſh between benefice and dignity, applying dignity to biſhoprics, deanries, archdeaconries, and prebendaries; and benefice to parſonages, vicarages, and donatives.

Benefices are divided by the canoniſts into ſimple and ſacerdotal; in the firſt there is no obligation but to read prayers, ſing, &c. ſuch are canonries, chaplainſhips, chantries, &c. the ſecond are charged with the cure of ſouls, or the direction and guidance of conſciences: ſuch are vicarages, rectories, &c.

The romaniſts again diſtinguiſh benefices into regular and ſecular.

Regular or titular benefices are thoſe held by a religious, or a regular, who has made profeſſion of ſome religious order: ſuch are abbies, priories, conventuals, &c. or rather, a regular benefice is that which cannot be conferred on any but a religious, either by its foundation, by the inſtitution of ſome ſuperior, or by preſcription: for preſcription, forty years poſſeſſion by a religious makes the benefice regular.

Secular benefices are only ſuch as are to be given to ſecular prieſts, *i. e.* to ſuch as live in the world, and are not engaged in any monaſtic order. All benefices are reputed ſecular, till the contrary is made

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to appear. They are called ſecular benefices, becauſe held by ſeculars; of which kind are almoſt all cures.

Some benefices, regular in themſelves, have been ſecularized by the pope's bull. The canoniſts diſtinguiſh three manners of vacating a benefice, *viz. de jure, de facto*, and by the ſentence of a judge.

A benefice is vacated *de jure*, when the perſon enjoying it is guilty of certain crimes expreſſed in thoſe laws, as hereſy, ſimony, *&c.*

A benefice is vacated *de facto*, as well as *de jure*, by the natural death, or the reſignation of the incumbent; which reſignation may be either expreſs, or tacit, as when he engages in a ſtate, *&c.* inconſiſtent with it, as, among the romaniſts, by marrying, entering into a religious order, or the like.

A benefice becomes vacant by the ſentence of a judge, by way of puniſhment for certain crimes, as concubinage, perjury, *&c.*

It is obſerved, that antiently there were five caſes by which benefices were acquired; by the nominative, as in royal nomination; by the genitive, as when the children of great men, *&c.* are provided of benefices by their birth; by the dative, as when ſpeaking of a benefice, it is ſaid *date*, and *dabitur vobis*; by the accuſative, as where, by virtue of an accuſation, either true or falſe, an incumbent is diſpoſſeſſed, and another admitted; by the ablative, as when benefices are taken away by force from the poor and helpleſs: but the vocative, which is the moſt juſt and legitimate, is out of uſe.

A BENEFICE *in commendam* is that, the direction and management of which, upon a vacancy, is given, or recommended, to an eccleſiaſtic, for a certain time, till he may be conveniently provided for. See the articles REGULAR and SECULAR.

Suſpenſio a BENEFICIO. See SUSPENSION.

Primo BENEFICIO *eccleſiaſtico habendo*. See the article PRIMO.

BENEFIT *of clergy*. See the article *Benefit of* CLERGY.

BENEVENTE, a town of Leon, in Spain, ſituated on the river Eſta, about forty miles ſouth of the city of Leon, in 6° weſt longitude, and 42° 10′ north latitude.

BENEVENTO, the capital of the farther Principate, in the kingdom of Naples, about thirty-four miles north-eaſt of the city of Naples; ſituated in 15° 30′ eaſt longitude, and 41° 15′ north latitude.

BENEVOLENCE is uſed in the ſtatutes of this realm for a voluntary gratuity given by the ſubjects to the king.

BENFIELD, a town of Alſace, in Germany, about fifteen miles ſouth of Straſburg, ſituated in 7° 30′ eaſt longitude, and 48° 25′ north latitude.

BENGAL, the moſt eaſterly province of the mogul's empire, lying at the bottom of a large bay, which takes its name from this province.

It is one of the moſt fertile provinces in India, being yearly overflowed by the Ganges, as Egypt is by the Nile.

BENGUELA, a kingdom upon the weſtern coaſt of Africa, between Angola and Jaga: it is alſo the name of the capital of that kingdom.

BENJAMIN, the ſame with benzoin. See the article BENZOIN.

BENIN, the capital of a country of the ſame name, on the coaſt of Guinea, ſituated in 5° eaſt longitude, and 7° 30′ north latitude.

BENSHEIM, a town of Germany, ſituated on the eaſt ſide of the river Rhine, about ten miles eaſt of Worms, in 8° 30′ eaſt longitude, and 49° 40′ north latitude.

BENTHEIM, the capital of a county of the ſame name, in the circle of Weſtphalia; ſituated in 7° 15′ eaſt long. and 52° 25′ north latitude.

BENTIVOGLIO, a town in the territory of Bologna, in Italy, about ten miles north of that city, ſituated in 12° eaſt long. and 44° 30′ north latitude.

BENZOIN, a dry and ſolid reſin, brought to us in maſſes of various ſizes, from the Eaſt Indies, particularly from the kingdom of Siam, and the iſlands of Java and Sumatra. It is to be choſen freſh, and of a quick pungent ſmell, eaſily broken, and full of the white almond-like granules. The black benzoin is vaſtly inferior to this, and ought wholly to be rejected. It is a powerful expectorant, and is given with ſucceſs in infarctions of the lungs, and inveterate coughs. It is ſometimes uſed externally in plaſters applied to the head for head-achs, and to the ſtomach, to promote digeſtion.

The preparations of benzoin are, 1. A tincture, made in ſpirit of wine, and commended in taking freckles from the ſkin. 2. Flowers of benzoin, which are ſudorific, and good in aſthmas and tubercles of the lungs. And, 3. Oil and ſpirit of benzoin, the latter of which is diuretic, but not very pleaſant, by reaſon of its empyreuma; and the former is accounted a good vulnerary, both in external and internal application.

BERBERIS, the BARBERRY-BUSH, a genus

3

nus of plants of the *hexandria-monogynia* claſs, the flower of which conſiſts of ſix roundiſh, hollow, erecto-patent petals, and is ſcarce larger than the cup: the fruit is a cylindric, obtuſe, umbilicated berry, with one cell, containing two oblong, cylindric, and obtuſe ſeeds.

The fruit is very cooling and aſtringent, and good to quench thirſt.

The conſerve of its fruit is of uſe in fluxes and the jaundice.

BERCHEROIT, or BERKCOITS, a weight uſed at Archangel, and in all the ruſſian dominions, to weigh ſuch merchandizes as are very heavy and bulky: It weighs about three hundred and ſixty-four pounds engliſh avoirdupois weight.

BERENGARIANS, a religious ſect of the XIth century, which adhered to the opinion of Berengarius, who, even in thoſe days, ſtrenuouſly aſſerted, that the bread and wine in the Lord's ſupper were not really and eſſentially, but only figuratively, changed into the body and blood of Chriſt.

His followers were divided in opinion as to the euchariſt: they all agreed, that the elements are not eſſentially changed; though ſome allowed them to be changed in effect: others admitted a change in part; and others an entire change, with this reſtriction, that to thoſe who communicated unworthily, the elements were changed back again.

BERE-REGIS, a market town in Dorſetſhire, about ten miles north-eaſt of Dorcheſter, in 2° 20′ weſt longitude, and 50° 40′ north latitude.

BERG, a duchy of Weſtphalia, in Germany, lying on the eaſtern ſhore of the river Rhine, which ſeparates it from Cologne.

BERGAMO, a town in the territories of Venice, in Italy, about twenty-five miles north-eaſt of Milan, in 10° eaſt longit. and 45° 40′ north latitude.

BERGAMOT, the name of a fragrant eſſence extracted from a fruit which is produced by ingrafting a branch of a lemon-tree upon the ſtock of a bergamot-pear. It is alſo the denomination of a coarſe tapeſtry, manufactured with flocks of ſilk, wool, cotton, hemp, ox, cow, or goat's hair, and ſuppoſed to be invented by the people of Bergamo.

BERGEN, the capital of a province of the ſame name, in Norway: it is a conſiderable port-town on the German ocean, in 6° eaſt lon. and 60° north lat.

BERGEN is alſo the name of the capital of the iſle of Rugen, on the coaſt of Pomerania, in 14° eaſt longit. and 54° 15′ north latitude.

BERGEN-OP-ZOOM, a fortified town of dutch Brabant, about twenty miles north of Antwerp, in 4° 5′ eaſt longitude, and 51° 30′ north latitude.

BERGERACK, a city of Guienne, in France, ſituated on the river Dordonne, about forty miles eaſt of Bourdeaux, in 20′ eaſt lon. and 44° 55′ north lat.

BERG-*gruen*, in natural hiſtory, the name of an earth uſed in painting, and properly called green ockre, though not known among the colourmen under that name. It is found in many parts of Germany, Italy, and England, commonly in the neighbourhood of copper-mines, from particles of which metal it receives its colour. In many parts of Germany, they have a purer kind of this, diſtinguiſhed by no peculiar name, but ſeparated by art from the waters draining from the copper-mines, and differing no otherwiſe from this native ſubſtance, than as the waſhed ockres of Oxfordſhire, *&c.* do from theſe ſent us in their natural condition. The characters by which the native kind is known from other green earths, are theſe: it is a denſe, compact ſubſtance, conſiderably heavy, and of a pale, but not diſagreeable green; of a rough and uneven, but not duſty ſurface, and ſomewhat unctuous to the touch. It adheres firmly to the tongue; does not break eaſily betweeen the fingers; nor at all ſtain the hands. It is of a brackiſh diſagreeable taſte, and does not ferment with acids.

BERGHMOT, an aſſembly, or court, held upon a hill, in Derbyſhire, for deciding controverſies among the miners.

BERGZABERN, a town of lower Alſace, about five miles ſouth of Landau, in 8° eaſt lon. and 49° 5′ north lat.

It is ſubject to France.

BERIBERI, a kind of palſy, common in the Eaſt Indies. The word, in the language of the country, ſignifies a ſheep, and was given by the natives to this diſtemper, becauſe the patients, on throwing out their knees, and lifting up their legs, ſeem to imitate ſheep in their walk.

BERKSHIRE, a county of England, lying on the ſouth ſide of the river Thames, oppoſite to Oxfordſhire and Buckinghamſhire.

It gives the title of earl to a branch of the Howard family.

BERLIN, the capital of the king of Pruſſia's



fia's dominions in Germany, fituated on the river Spree, in the marquifate of Brandenburg: eaft longitude 14°, and north latitude 52° 30′.

Berlin is alfo the name of a kind of chariot, fo called from the city of Berlin.

BERME, in fortification, a fpace of ground left at the foot of the rampart, on the fide next the country, defigned to receive the ruins of the rampart, and prevent their filling up the foffe. It is fometimes palifadoed, for the more fecurity; and in Holland it is generally planted with a quick-fet hedge. It is alfo called liziere, relais, foreland, retraite, pas de fouris, *&c.*

BERMUDA-islands, a clufter of very fmall iflands, in the Atlantic ocean, lying almoft in the fhape of a fhepherd's hook, in 65° weft longitude, and 32° 30′ north latitude.

BERN, a town of Bohemia, about fifteen miles weft of Prague, in 14° eaft longit. and 50° north latitude.

Bern is alfo the name of a city and canton in Switzerland; the former being fituated in 7° 20′ eaft lon. and 47° north lat.

The canton of Bern is by far the moft extenfive and powerful of all Switzerland: their government is ariftocratical, and their religion proteftant, according to the prefbyterian form.

BERNACLE, or Clakis, in ornithology, the anas with the head and neck black. See the article Anas.

This is a very fingular bird: it is confiderably fmaller than the common goofe, but larger than the duck; the head is large and rounded; the eyes are large; the beak is black, and much fmaller than in the common goofe, though broader in proportion to its length; the under part of the body is white, with fomewhat of an admixture of grey; the back is variegated with black and grey, and the covering feathers of the tail are part white, and part black; the tail is black, and the covering feathers of the wings are very elegantly variegated with black, grey, and white.

This is the bird which Gerard, and fome other authors, have declared to be produced from a peculiar fpecies of fhell-fifh, called the bernacle-fhell, found on decayed wood that lies about the fea-fhores. The love of wonderful obfervations raifed this firft account of the bird's being produced from a fhell-fifh, that ufually adhered to old wood, into the ftory of that fhell's growing upon a tree in manner of its fruit. The whole matter that gave origin to this ftory is, that the fhell-fifh, fuppofed to have this wonderful production, ufually adhere to old wood, and that they have a kind of fibrils hanging out of them, which, in fome degree, refemble feathers of fome bird; from which arofe a ftory, that they contained real birds.

Bernacle, in the hiftory of fhells. See the article Concha Anatifera.

BERNARDINES, an order of monks, founded by Robert, abbot of Moleme, and reformed by St. Bernard. They wear a white robe with a black fcapulary, and when they officiate they are cloathed with a large gown which is all white, and hath great fleeves, with a hood of the fame colour. They differ but very little from the ciftercians. See the article Cistercians.

BERNAW, the name of three towns in Germany, one in the electorate of Brandenburg, another in the bifhopric of Ratifbon, and the third in the upper Palatinate.

BERNBURG, a town of Anhalt, in the circle of upper Saxony, fituated in 12° 20′ eaft longitude, and 51° 50′ north latitude.

BERRY, *bacca*, a round fruit, for the moft part foft, and covered with a thin fkin, containing feeds in a pulpy fubftance; but if it be harder, or covered with a thicker fkin, it is called *pomum*, apple.

Berries grow fcattering upon trees and fhrubs, and in that are diftinguifhed from *acini*, which are berries hanging in clufters. See the article Acinus.

They are of various fizes, forms, properties, and ufes, according to the plants on which they grow. Some are ufed in dying, as french berries.

The moft remarkable in the materia medica are baccæ alkekengi, or winter-cherry berries, agnus caftus berries, bay berries, juniper berries, and myrtle berries.

Berries for the dyers ufe, imported from the britifh plantations, pay for every 20 s. value, upon oath, 2 s. $10\frac{65}{100}$ d. whereof 2 s. $4\frac{95}{100}$ d. is drawn back on exporting them. French berries, for the fame purpofes, pay 11 s. $7\frac{65}{100}$ d. for every 20 s. value; whereof, upon exporting them, 6 s. $1\frac{95}{100}$ d. is drawn back.

Berry, in geography, a territory of the Orle-

Orleanois, having Tourain on the weft, and the Nivernois on the eaft.

BERRY-POINT, a cape at the entrance of Torbay, in Devonfhire.

BERSELLO, or BRESELLO, a town of the Modenefe, in Italy, fituated on the river Po, about fourteen miles north eaft of Parma: eaft longitude 11°, and north latitude 44° 40′.

BERTRAND, or St. BERTRAND, a city of Gafcony, in France, fituated on the river Garonne, about forty-five miles fouth of Tooloufe, in 30° eaft longitude, and 43° 15′ north latitude.

BERVY, a fea-port town and borough of Scotland, fituated on the German ocean, about twenty-two miles fouth-weft of Aberdeen, in 2° 5′ weft longit. and 56° 40′ north latitude.

BERWICK, a borough town on the borders of England and Scotland, fituated on the north fide of the river Tweed, in 1° 40′ weft lon. and 55° 40′ north lat. It fends two members to parliament.

North-BERWICK, a town of Scotland, fituated at the entrance of the frith of Forth, about feventeen miles eaft of Edinburgh, in 2° 27′ weft longitude, and 56° 5′ north latitude.

BERYL, βηρυλλος, in natural hiftory, called by our lapidaries *aqua marina*, is a pellucid gem of a bluifh green colour, found in the Eaft Indies, and about the gold mines of Peru: we have alfo fome from Silefia, but what are brought from thence are oftener coloured cryftals, than real beryls; and when they are genuine, they are greatly inferior both in hardnefs and luftre to the oriental and peruvian kinds.

The beryl, like moft other gems, is met with both in the pebble and columnar form, but in the latter moft frequently. In the pebble form it ufually appears of a roundifh but flatted figure, and commonly full of fmall flat faces, irregularly difpofed. In the columnar or cryftalline form it always confifts of hexangular columns, terminated by hexangular pyramids. It never receives any admixture of colour into it, nor lofes the blue and green, but has its genuine tinge in the degrees from a very deep and dufky to the paleft imaginable of the hue of fea-water.

The beryl, in its perfect ftate, approaches to the hardnefs of the garnet, but it is often fofter; and its fize is from that of a fmall tare to that of a pea, a horfe bean, or even a wallnut. As to its virtues, fome fanciful people have advifed it to be worn to prevent fea-ficknefs. It is faid to be an aftringent; and, indeed, its colour is owing to a mixture of cupreous and ferrugineous particles; but they are in too fmall quantity to have any effect as medicines.

BERYL-CRYSTAL, in natural hiftory, a fpecies of what Dr. Hill calls *ellipomacroftyla*, or imperfect cryftals, is of an extreme pure, clear, and equal texture, and fcarce ever fubject to the flighteft films or blemifhes. It is ever conftant to the peculiarity of its figure, which is that of a long and flender column, remarkably tapering towards the top, and very irregularly hexangular. It is of a very fine tranfparence, and naturally of a pale brown, and carries fo evident marks of diftinction from all other brown cryftals, that our lapidaries call it, by way of eminence, the beryl-cryftal, or fimply the beryl.

BES, or BESSIS, in roman antiquity, two thirds of the as. See the article As.

BES alfo denotes two thirds of the jugerum. See the article JUGERUM.

BESAILE, in law, a writ that lies where the great-grand-father was feifed in fee of any lands, *&c.* at the time of his death; and after his deceafe, a ftranger enters thereon, the fame day, and keeps out the heir.

BESANCON, the capital of Franche Comte, in France, fituated in 6° eaft longitude, and 47° 20′ north latitude.

BESANT, or BEZANT, a coin of pure gold, of an uncertain value, ftruck at Byzantium, in the time of the chriftian emperors; from hence the gold offered by the king at the altar, is called befant, or bifant.

BESANTS, in heraldry, round pieces of gold, without any ftamp, frequently borne in coats of arms. See plate XXVII. fig. 8.

BESIERS, a city of lower Languedoc, in France, about two miles north of the Mediterranean, and fifteen north-eaft of Narbonne, in 3° eaft long. and 43° 25′ north latitude.

BESLERIA, in botany, a genus of the *didynamia-angiofpermia* clafs of plants. Its flower confifts of a fingle ringent petal. Its fruit is a berry of a globofe form, containing only one cell, in which are feveral feeds, very fmall, and of a roundifh figure.

BESORCH, a coin of tin, or fome alloyed metal, current at Ormus, at the rate of 7 7/9 parts of a farthing fterling.





Fig. 2. BELLIS, the *DAISY*.

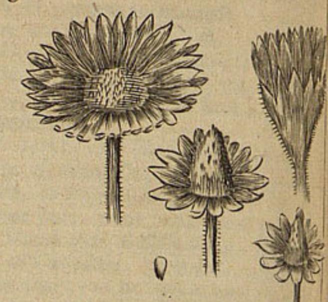


Fig. 3. BEND.

Dexter. Siniſter.

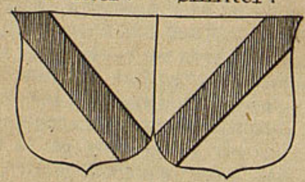


Fig. 4. BENDY.



Fig. 5. BETONY.



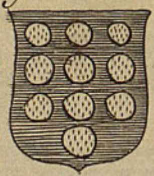
Fig. 6. BETULA, the *BIRCH-TREE*.



Fig. 7. BEVILE.



Fig. 8. BEZANTS.



T. Jefferys sculp.

BESSARABIA, a province of Turky in Europe, lying about the feveral mouths of the Danube.

BESSIS, or BES. See the article BES.

BESTAIL, or BESTIAL, in antient ftatutes, all kinds of beafts, or cattle, efpecially thofe purveyed for the king's provifion.

BESTIARII, in roman antiquity, fuch as fought againft beafts, or thofe who were expofed to them by fentence of the law. There were four kinds of beftiarii; the firft were thofe who made a trade of it, and fought for money; the fecond were fuch young men as, to fhew their ftrength and dexterity in managing their arms, fought againft beafts; the third kind was, where feveral beftarii were let loofe at once, well armed againft a number of beafts; and the fourth kind were thofe condemned to the beafts, confifting either of enemies taken prifoners in war, or as being flaves, and guilty of fome enormous crime; thofe were all expofed naked, and without defence.

BESTRICIA, a city of Tranfilvania, remarkable for the gold mines near it: it is fituated in 22° eaft longitude, and 48° north latitude.

BETA, BEET, in botany. See BEET.

BETANCOS, a city of Gallicia, in Spain, in 8° 50′ weft longitude, and 43° 15′ north latitude.

BETEL, or BETLE, in botany, a kind of long pepper, found in Malabar, and other parts of the Eaft Indies.

Its leaves are efteemed cordial, and give a fine flavour to the breath; in which intention, they are much in ufe among the natives of thofe parts.

BETHLEHEM, once a flourifhing city of Paleftine, but now only a poor village, is ftill much frequented, as being the place of our Saviour's birth: it is fituated in 36° eaft longitude, and 31° 30′ north latitude.

BETHLEHEM is alfo the name of a town of Brabant, in the Auftrian Netherlands, about two miles north of Louvain, fituated in 4° 35′ eaft longitude, and 51° north latitude.

BETHLEHEM, or BEDLAM *Hofpital.* See the article HOSPITAL.

BETHLEHEMITES, in church-hiftory, a religious order, called alfo ftar-bearers, *ftelliferi*, becaufe they were diftinguifhed by a red ftar with five rays, which they wore on their breaft, in memory of the ftar that appeared to the wife men, and conducted them to Bethlehem.

There is an order of bethlehemites ftill fubfifting in the fpanifh Weft Indies, who are habited like capuchins, with this difference, that they wear a leather girdle inftead of a cord, and on the right fide of their cloak an efcutcheon, reprefenting the nativity of our Saviour.

BETHUNE, a little fortified town of Artois, in the french Netherlands, about thirteen miles north of Arras, fituated in 2° 35′ eaft longitude, and 50° 32′ north latitude.

BETLIS, a city in the north of Curdiftan, fituated on a fteep rock, at the fouth end of the lake Van, on the frontiers of Perfia and Turky, in 45° eaft longitude, and 37° 30′ north latitude.

BETONY, *betonica*, in botany, a genus of the *didynamia gymnofpermia* clafs of plants, whofe flower, confifting of a fingle labiated petal, is of a bright red colour, and difpofed in fhort fpikes; the cup contains four ovated feeds. See plate XXVII. fig. 5.

This plant is common in our woods: Bauhine calls it *betonica purpurea.* It is a famous cephalic.

BETUE, or BETAW, a territory in dutch Guelderland, between the river Maefe and Lech, fuppofed to be the antient Batavia.

BETULA, the BIRCH-TREE, in botany, a genus of plants, of the *monoecia-tetrandria* clafs: the male flower is amentaceous, formed of a number of monopetalous flofcules, each of which is divided into four parts. In the female flower the calyx is lightly divided into three fegments: the fruit is a cylindric cone, and the feeds are on each fide edged with a membrane. See plate XXVII. fig. 6.

The birch-tree is of ufe for the hufbandman's ox-yokes, for hoops, fmall fcrews, paniers, brooms, wands, bavin-bands, withies for faggots, arrows, bolts, fhafts, difhes, bowls, ladles: it is alfo good for fuel, great and fmall coal, the laft being made by charing the flender brufh and tops of the twigs and loppings. In Ruffia and Poland, they cover houfes with the bark of the birch-tree, inftead of flate and tile.

BEVECUM, a town of Brabant in the auftrian Netherlands, about feven miles fouth of Louvain, fituated in 4° 45′ eaft longitude, and 50° 45′ north latitude.

BEVEL, among mafons, carpenters, joiners, and bricklayers, a kind of fquare, one leg whereof is frequently crooked, according to the fweep of an arch or vault.

It is moveable on a center, and fo may be fet to any angle.

The make and ufe of this inftrument is pretty much the fame as thofe of the common fquare and mitre, except that thofe are fixed, the firft at an angle of ninety degrees, and the fecond at forty-five; whereas the bevel being moveable, it may in fome meafure fupply the place of both, which it is chiefly intended for, ferving to fet off or transfer angles, either greater or lefs than ninety or forty-five degrees.

Bevel-angle, any other angle befides thofe of ninety or forty-five degrees. See the article Angle.

BEVELAND, the name of two iflands, in the province of Zealand, in the united Netherlands.

They are called North and South Beveland; and lye between the eaftern and weftern branches of the Scheld.

BEVERLY, a borough-town of Yorkfhire, about feven miles north of Hull, in 12° weft longitude, and 53° 50′ north latitude.

It fends two members to parliament.

BEVILE′, in heraldry, a thing broken or opening like a carpenter's rule; thus we fay, he beareth argent, a chief bevile, vert, by the name of *beverlis*. See plate XXVII. fig. 7.

BEWDLEY, a borough-town of Worcefterfhire, fituated on the river Severn, about twelve miles north of Worcefter, in 2° 20′ weft longitude, and 52° 25′ north latitude.

It fends only one member to parliament.

BEWITS, in falconry, pieces of leather to which a hawk's bells are faftened, and buttoned to his legs.

BEY, among the Turks, fignifies a governor of a country or town. The Turks write it begh, or bek, but pronounce it bey.

This word is particularly applied to a lord of a banner, whom, in the fame language, they call fangiacbeg or bey. Every province in Turky is divided into feven fangiacs, or banners, each of which qualifies a bey, and thefe are all commanded by the governor of the province, whom they alfo call begler-beg, that is, lord of all the beghs or beys of the province: thefe beys are much the fame as bannerets were formerly in England.

Bey *of Tunis*, the fame with the dey of Algiers, is the prince or king of that kingdom.

BEZANT, or Besant. See Besant.

BEZOAR, in a general fenfe, an antidote, or medicine intended to prevent the fatal effects of poifon.

Oriental **Bezoar**, a moderately hard and heavy ftone, very variable and uncertain in fize, fhape, and colour. It is generally of a round form, and its fize is between that of a horfe-bean, and that of a fmall wallnut, though there are fome larger, and fome fmaller than peas. The ordinary colour is a dufkifh olive or greenifh brown.

It is always fmooth and gloffy on the furface, and, when broken, is found to confift of a great number of coats or crufts of ftony matter, laid one over another, and often formed upon a piece of ftick, or feed of a fruit, or fome fuch thing, for a nucleus, or bafis.

This is a drug of very great price, and of very great fame; but it is not of the number of thofe things that have been proved to deferve the repute they ftand in. It is brought to us from Perfia, and many parts of the Eaft Indies: it is to be chofen entire, not in fcraps and fragments; of a greenifh or olive colour, with fome mixture of grey in it, and fuch as, when rubbed on paper, before whitened with cerufs, gives a yellowifh colour.

The oriental bezoar is, like the pearl, a diftemper in the animal that produces it, and is a concretion of ftony matter in the ftomach of a quadruped of the goat-clafs, called *caper bezoarticus* and *hircus bezoarticus* by Aldrovand, Johnfton, and others; but Ray calls it *gazella indica cornubus rectis, &c.*

In the ftomach of this animal are found from one to five or fix of thefe ftones.

Great things are faid of the medicinal virtues of this ftone, as a cordial, fudorific, alexipharmic: but, at prefent, phyficians never prefcribe it fingly.

Occidental **Bezoar**. This ftone is brought from Peru and Mexico chiefly: the creature in whofe ftomach it is found, is defcribed by Hernandez under the name of *mozarna feu cervus*, and by Johnfton, under that of *capreolus marinus*.

This bezoar is faid to poffefs all the virtues of the oriental, but in a more remifs degree, and therefore it requires to be given in a larger dofe.

Monkey-**Bezoar**. This is a very rare and valuable ftone found in a fpecies of monkey common in the Eaft Indies, and in America, and defcribed by Marcgrave under the name of *guariba*; great numbers

bers of which are killed in hopes of bezoars, but it is very rare to find a ſtone in them.

The great virtues aſcribed to this ſtone, have ſet it at ſo high a price, that poſſeſſors of oriental bezoars, reſembling it in colour, have often pretended to call them by this name.

Porcupine BEZOAR, or the *pedro del porco*, the hog-ſtone, ſo called from an opinion that it was taken from an animal of the hog-kind, tho' it is certain that they are always taken from the porcupine. This ſtone is of a yellow or browniſh colour: the Indians ſet a great value on it as a remedy againſt epidemical diſeaſes, common in that part of the world, ariſing from a diſtempered bile. They eſteem it as an univerſal remedy, and give it againſt poiſons, and malignant fevers; and the Europeans look upon it as a good remedy in the ſmall-pox.

German BEZOARS, a ſtone found in the ſtomach of an animal of the goat-kind, called rupi-capra, or chamois.

The virtues of this bezoar are ſaid to equal, if not to excel, the oriental bezoar. It is reported to be a great remedy in malignant fevers, as alſo in the plague; and has the reputation of expelling poiſon. This bezoar is in uſe in the german ſhops, but in ours is ſcarce known.

Mineral BEZOAR, *bezoardicum minerale*, a preparation of butter of antimony, corrected with ſpirit of nitre. Then the matter is powdered and calcined in a crucible; after which it is edulcorated by waſhing, and ſpirit of wine burnt on it three or four times.

It is ſaid to eradicate leproſies in the moſt obſtinate caſes of that kind, if rightly managed. It is reported to be a very great ſudorific, and is given in malignant fevers, in the ſmall-pox and meaſles, and againſt the bites of venemous animals.

BEZOARDICUM *martiare*, or the bezoar of Mars, a preparation of the crocus of Mars, diſſolved with butter of antimony. This medicine ſtops hepatic and other fluxes, and ſtrengthens the viſcera.

BEZOARDICUM *lunare*, or the bezoar of ſilver, is made by mixing rectified butter of antimony with fine ſilver, diſſolved in ſpirit of nitre, upon which a powder falls to the bottom, which is the bezoar. This medicine is reckoned a ſpecific in epilepſies, convulſions, megrims, and apoplexies. It is anodyne, ſudorific, and of effect in curing the eryſipelas.

BEZOARDICUM *joviale*, or bezoar of Jupiter, a greyiſh powder, prepared from regulus of antimony and tin, mixed with mercury ſublimate, and diſtilled in a retort.

This is a ſtrong diaphoretic, and of ſingular efficacy in diſorders of the womb, as alſo in fevers, the plague and ſcurvy.

BEZOARDIC, an appellation given to whatever partakes of the nature of bezoar; alſo to compound medicines whereof bezoar makes an ingredient. See the article BEZOAR.

BIAS, or BIASS, in a general ſenſe, the inclination, or bent of a perſon's mind, to one thing more than another.

It alſo ſignifies the lead or weight put into a bowl, that draws or turns the courſe of it any way to which the bias looks.

BIBITORY *muſcle*, the ſame with the adductor oculi. See ADDUCTOR.

BIBLE, βιβλιον, the book, a name given by chriſtians, by way of eminence, to a collection of the ſacred writings.

This collection of the ſacred writings, containing thoſe of the Old and New Teſtament, is juſtly looked upon as the foundation of the jewiſh as well as the chriſtian religion. The Jews, it is true, acknowledge only the ſcriptures of the Old Teſtament, the correcting and publiſhing of which, is unanimouſly aſcribed both by the Jews and the chriſtians to Ezra. Some of the antient fathers, on no other foundation than that fabulous and apocryphal book, the ſecond book of Eſdras, pretend that the ſcriptures were intirely loſt in the babyloniſh captivity, and that Ezra had reſtored them again by divine revelation. What is certain is, that in the reign of Joſiah, there were no other books of the law extant, beſides that found in the temple by Hilkiah; from which original, that pious king ordered copies to be immediately written out, and ſearch made for all the parts of the ſcriptures; by which means copies of the whole became pretty numerous among the people, who carried them with them into captivity. After the return of the Jews from the babyloniſh captivity, Ezra got together as many copies as he could of the ſacred writings, and out of them all prepared a correct edition, diſpoſing the ſeveral books in their natural order, and ſettling the

the canon of the fcripture for his time; having publifhed them according to the opinion of moft learned men, in the chaldee character, as the Jews, upon their return from the captivity, brought with them the chaldaic language, which from that time became their mother tongue, and probably gave birth to the chaldee tranflation of their fcriptures.

Chaldee BIBLE is only the gloffes, or expofitions made by the Jews when they fpoke the chaldee tongue: whence it is called *targumim*, or paraphrafes, as not being a ftrict verfion of the fcriptures.

Hebrew BIBLE. There is, in the church of St. Dominic, in Bononia, a copy of the hebrew fcriptures, which they pretend to be the original copy, written by Ezra himfelf. It is written in a fair character, upon a fort of leather, and made up into a roll, after the antient manner: but its having the vowel points annexed, and the writing being frefh and fair, without any decay, are circumftances which prove the novelty of the copy.

Greek BIBLE. It is a difpute among authors, whether there was a greek verfion of the Old Teftament, more antient than that of the feventy-two Jews employed by Ptolemy Philadelphus to tranflate that book: before our Saviour's time, there was no other verfion of the Old Teftament befides that which went under the name of the LXX. See the article SEPTUAGINT.

But after the eftablifhment of chriftianity, fome authors undertook new tranflations of the bible, under pretence of making them more conformable to the hebrew text. There have been about fix of thefe verfions, fome whereof are charged with having corrupted feveral paffages of the prophets relating to Jefus Chrift; others have been thought too free in their verfions, and others have been found fault with, for having confined themfelves too fervilely to the letter.

Latin BIBLE. It is beyond difpute, that the latin churches had, even in the firft ages, a tranflation of the bible in their language; which being the vulgar language, and confequently underftood by every body, occafioned a vaft number of latin verfions. Among thefe there was one which was generally received, and called by St. Jerom, the vulgar or common tranflation. St Auftin gives this verfion the name of the italic, and prefers it to all the reft. See VULGATE.

There were feveral other tranflations of the bible into latin, the moft remarkable of which are the verfions of St. Jerom, Santes Pagninus, cardinal Cajetan, and Ifiodore Clarius, all from the hebrew text. Befides thefe tranflations by catholic authors, there are fome made by proteftant tranflators of the hebrew; the moft eminent of their verfions are thofe of Sebaftian Munfter, Leo Juda, Sebaftian Caftalio, Theodore Beza, Le Clerc, &c.

Syriac BIBLE. The Syrians have in their language a verfion of the Old Teftament, which they pretend to be of great antiquity, moft part of which they fay was made in Solomon's time, and the reft in the time of Abgarus king of Edeffa.

Arabic BIBLE. The arabic verfions of the bible are of two forts, the one done by chriftians, the other by jews. There are alfo feveral arabic verfions of particular books of fcripture, as a tranflation of the pentateuch from the fyraic, and another of the fame from the feptuagint, and two other verfions of the pentateuch, the manufcripts of which are in the bodleian library.

The gofpel being preached in all nations, the bible, which is the foundation of the chriftian religion, was tranflated into the refpective languages of each nation; as the egyptian or coptic, the indian, perfian, armenian, ethiopic, fcythian, farmatian, fclavonian, polifh, bohemian, german, englifh, &c.

The books of the bible are divided by the Jews into three claffes, *viz.* the law, the prophets, and the hagiographers; a divifion which they are fuppofed to borrow from Ezra himfelf.

Each book is fubdivided into fections, or *parafches*; which fome will have to have been as old as Mofes, though others, with more probability, afcribe it to the fame Ezra. Thefe were fubdivided into verfes, *pefuchim*, marked in the hebrew bible by two great points, called *foph pafuch*, at the end of each. For the divifion of the bible into chapters, as we now have it, it is of much later date.

Divers of the antient bible-books appear to be irrecoverably loft, whether it be that the copies of them perifhed, or that Efdras threw them out of his canon. Hence it is, that, in the books ftill extant, we find divers citations of, and references to, others, which are now no more; as the book of Jafher, the book of the wars of the Lord, annals of the kings of Judah and Ifrael, part of Solomon's three thoufand proverbs, and his thoufand and five fongs, befides his books on plants, animals,

mals, fifhes, infects, &c. To which may be added, a book of Jeremiah, wherein he enjoined the captives who went to Babylon to take the facred fire and conceal it; alfo the precepts which that prophet gave the Jews to preferve themfelves from idolatry, and his lamentations on the death of king Jofiah.

The jewifh canon of fcripture then was fettled by Ezra; yet not fo but that feveral variations have been fince made in it: Malachi, for inftance, could not be put in the bible by him, fince that prophet is allowed to have lived after Ezra; nor could Nehemiah be there, fince mention is made in that book of Jaddua as high-prieft, and of Darius Codomannus as king of Perfia, who were, at leaft, an hundred years later than Ezra. It may be added, that, in the firft book of Chronicles, the genealogy of the fons of Zerubbabel is carried down for fo many generations, as muft neceffarily bring it to the time of Alexander; and confequently this book could not be in the canon in Ezra's days. It is probable the two books of Chronicles, Ezra, Nehemiah, Efther, and Malachi, were adopted into the bible in the time of Simon the Juft, the laft of the men of the great fynagogue.

BIBLIOTHECA, in its original and proper fenfe, denotes a library, or place for depofiting books.

Bibliotheca, in matters of literature, denotes a treatife giving an account of all the writers on a certain fubject; thus, we have bibliothecas of theology, law, philofophy, &c.

There are likewife univerfal bibliothecas, which treat indifferently of all kinds of books; alfo felect bibliothecas, which give an account of none but authors of reputation.

Many of the bibliothecas agree, in moft refpects, with what are otherwife called memoirs or journals of literature, except that thefe laft are confined to new books; but there are other bibliothecas, that differ in nothing from catalogues of the writers on certain fubjects.

BIBLISTS, *biblifta*, fo the roman catholics call thofe chriftians, that make fcripture the fole rule of faith; in which fenfe, all proteftants either are, or ought to be, biblifts.

BIBRACH, an imperial city of Swabia, in Germany, about twenty miles fouth-weft of Ulm: eaft longitude 9° 30′, and north latitude 48° 12′.

BICE, or Bise, among painters, a blue colour prepared from the lapis armenus. Bice bears the beft body of all bright blues ufed in common work, as houfe-painting, &c. but it is the paleft in colour. It works indifferently well, but inclines a little to fandy, and therefore requires good grinding. Next to ultramarine, which is too dear to be ufed in common work, it lies beft near the eye of all other blues.

BICEPS, in anatomy, the name of feveral mufcles; as the

Biceps humeri, or cubiti. This being a mufcle of the arm, has two heads; the firft of which arifes, with a long, round tendon, from the upper edge of the acetabulum fcapulæ, running under the ligament of the articulation, in a channel, on the head of the fhoulder-bone, wherein it is inclofed by a proper ligament; the other arifes with a fomewhat broad, flat, and long tendon, at the extremity of the proceffus coracoides fcapulæ; in its defcent, it ftrictly adheres to the coracobrachialis, and parting from it, both thefe heads compofe a large flefhy belly, which becoming tendinous near the cubit, is inferted by a ftrong round tendon to the tubercle, at the upper head of the radius. When this mufcle acts, the cubit is bended.

Biceps tibiæ, or femoris, a mufcle of the leg with two heads; the fuperior arifing with a round tendon from the protuberance of the ifchium; and the other, being the fhorteft, from the lower part of the os femoris: both which join together, and are inferted by one tendon into the fuperior and external part of the perone.

Befides the office commonly affigned to this mufcle, in bending the tibia, together with the fartorius and membranofus, it is likewife employed in turning the leg, together with the foot and toes, outwards when we fit with the knees bended.

BICHET, a quantity, or meafure of corn, which differs according to the places where it is ufed. The bichet is not a wooden meafure, as the minot at Paris, or the bufhel at London, but is compounded of feveral certain meafures. It is ufed in many parts of France, &c.

Bichet, a certain quantity of land, namely, as much as may be fown by a bichet of corn.

BICLINIUM, in roman antiquity, a chamber with two beds in it; or when two beds only were round a table. See Bed.

BICORNIS,

BICORNIS, in anatomy, a name for the os hyoides. See the article HYOIDES.

BICORNIS MUSCULUS, a name for the extenſor carpi radialis.

BIDDING *of the bans*, the ſame with what is otherwiſe called aſking. See the article MARRIAGE.

BIDDING, in a commercial ſenſe, the offering a ſum of money, or a certain price, for any ware or merchandize; and when any thing is ſold by auction, a perſon who has a mind to have it, muſt offer ſomething more for it than the perſon who bade laſt.

BIDDER, he that bids money for any merchandize that is ſelling by auction: the beſt, or laſt bidder, is he who offers moſt money for it. See the articles SALE, and SALE *by inch of candle*.

BIDENS, in botany, a genus of the *ſyngeneſia polygamia æqualis* claſs of plants. The compound flower is uniform and tubuloſe, and the proper one infundibuliform. The ſeed is ſingle, obtuſe, and crowned with two or more erect and ſharp awns. See plate XXVIII. fig. 1.

This plant is common in wet places.

BIDENTAL, in roman antiquity, a place blaſted with lightening, which was immediately conſecrated by an haruſpex, with the ſacrifice of a bidens. This place was afterwards accounted ſacred, and it was unlawful to enter it, or to tread upon it; for which reaſon it was commonly ſurrounded with a ditch, wall, hedge, ropes, &c. See the next article.

BIDENTALES, in roman antiquity, prieſts inſtituted to perform certain ceremonies and expiations when thunder fell on any place. Their principal office was the ſacrificing a ſheep of two years old, which in latin is called *bidens*; from whence the place ſtruck with thunder got the name of bidental.

The bidentales conſtituted a college, or decury.

BIDON, a liquid meaſure, containing about five pints of Paris, that is, about five quarts engliſh wine-meaſure. It is ſeldom uſed but among ſhips crews.

BIEL, a town of the canton of Bern, in Switzerland, ſituated at the north end of a lake to which it gives name, about fifteen miles north-weſt of the city of Bern: eaſt long. 7°, and north lat. 47° 15′.

BIELSKI, a town of Polachia, in Poland, about ſixty-two miles ſouth of Grodno: eaſt long. 24°, and north lat. 53°.

BIELSKI, or BIHELA, is alſo a town of Smolenſko, in Ruſſia: eaſt long. 35°, and north lat. 56° 40′.

BIER, a wooden machine for carrying the bodies of the dead to be burried. See the article BURIAL.

BIGA, in antiquity, a chariot drawn by two horſes a-breaſt. Chariot races, with two horſes, were introduced into the olympic games in the 93d olympiad: but the invention was much more antient, as we find that the heroes in the Iliad fought from chariots of that kind.

BIGAMY, the poſſeſſion of two wives at the ſame time. This is the interpretation of the word, in a law paſſed in 1 Jac. I. which makes bigamy felony. Among the Romans, perſons convicted of bigamy, were branded with a note of infamy; and in France, they were antiently puniſhed with death.

Bigamy, in the canon law, is when a perſon either marries two women ſucceſſively, or only marries one woman who had been married before. Both which caſes are accounted impediments to be a clerk, or to hold a biſhopric. It is alſo bigamy when a perſon marries a woman who had been debauched before; or when he hath known his own wife, after ſhe has been debauched by another.

The romaniſts make a kind of bigamy by interpretation; as when a perſon in holy orders, or that has made profeſſion of ſome monaſtic order, marries. This the biſhop can diſpenſe with on ſome occaſions.

Spiritual bigamy is when a perſon holds two incompatible benefices, as two biſhoprics, two vicarages, &c.

BIGGLESWADE, a market-town in Bedfordſhire, ſituated on the river Ivel, about eight miles ſouth-eaſt of Bedford: weſt longitude 20′, north lat. 52° 5′.

BIGNESS, or MAGNITUDE. See the article MAGNITUDE.

BIGNONIA, the TRUMPET-FLOWER, in botany, a genus of the *didynamia-angioſpermia* claſs. The flower is monopetalous, with a mouth campanulated, and divided into five ſegments: the fruit is a pod with two cells and two valves, containing ſeveral imbricated, compreſſed, and winged ſeeds. There are no medicinal virtues aſcribed to this plant. See plate XXVIII. fig. 2.

BIGOT, a perſon fooliſhly obſtinate and perverſely wedded to any opinion, but particularly an opinion of a religious nature.

BILANCIIS DEFERENDIS, in law, a writ directed to a corporation for carrying weights to a haven, there to weigh wool that perfons were formerly licenfed to tranfport.

BILANDER, a fmall flat-bottomed veffel, with only one large maft and fail, and its deck raifed half a foot above the plat-board. See the article SHIP.

BILARY PORE, *porus bilarius*. See the article PORUS.

BILATERAL, in a general fenfe, denotes fomething with two fides. Hence, Bilateral cognation is kinfhip both by the father and mother fide.

BILBOA, the capital of the province of Bifcay, in Spain, fituated near the mouth of the river Ibaicabal, which, falling into the fea a little below it, forms a good harbour: weft longitude 3°, and north latitude 43° 30′.

BILBOWS, a punifhment at fea, anfwering to the ftocks at land. The offender is laid in irons, or ftocks, which are more or lefs ponderous, according to the quality of the offence of which he is guilty.

BILDESTON, a market town of Suffolk, about ten miles fouth-eaft of Bury: eaft longitude 40′, and north lat. 52° 20′.

BILDGE of a fhip, the bottom of her floor, or the breadth of the place the fhip refts on when fhe is aground. Therefore, bildge-water is that which lies on her floor, and cannot go to the well of the pump: and bildge-pumps, or burr-pumps, are thofe that carry off the bildge-water. They likewife fay the fhip is bildged, when fhe has fome of her timber ftruck off on a rock or anchor, and fprings a leak.

BILE, a yellow, bitter juice, feparated from the blood in the liver, collected in the porus bilarius and gall bladder, and thence difcharged by the common duct into the duodenum.

The bile is properly of two kinds, and is diftinguifhed under them by the names of cyftic and hepatic. The hepatic bile is thin, almoft infipid, and fcarce coloured; the cyftic bile is thicker, more coloured, and very bitter.

This laft, moft properly called bile, as the firft is denominated gall, is feparated immediately from the glands of the liver into the porus bilarius. Its nature is fuch as to refift acids, and being mixed with other fluids, to give them the like property; and by a chemical analyfis, is obferved to afford fome fulphur, or oil, fome volatile falt, and a good deal of fixed falt; in which particular it differs from all other animal liquors, and a moderate quantity of a caput mortuum or earth: the bafis is phlegm.

As to the manner in which the bile is fecreted in the liver, there are various opinions. Some maintain, that the pores of the fecretory glands of the liver, have a certain configuration and magnitude, to which the particles of the bile floating in the blood, being juft anfwerable both in bulk and figure, are admitted in, and all the reft excluded. Others have recourfe to a ferment which they fuppofe to refide in the liver, by means of which, the particles of the blood, in their paffage through the fecretory ducts, affume the form of bile. Others maintain, that the fluids contained in the blood of the vena porta, apply indifferently to the apertures of the fecretory tubes, contiguous to the extremities of the vena porta, and to the extreme branches of the vena cava; that the pores of the cava being too little, and thofe of the porta large enough to admit certain particles, thefe being feparated from the fociety of the effential part of the blood, and expofed to the action of the bilary veffels, conftitute a new humour diftinct from the blood, called bile. Dr. Keil accounts for the fecretion of the bile, from the ftrong attraction between the particles of which it is compofed. But all this is very fyftematical.

As to the quantity of the bile fecreted in the liver, we are ignorant, as Dr. Haller obferves, of the velocity with which the blood of the mefentery circulates; we are ignorant of the caufes which may either accelerate or retard its velocity; we have not the diameters of the veffels precifely afcertained, nor indeed do they remain invariably the fame; and confequently were we to pretend to fix the quantity of bile fecreted in the liver in any given time, we fhould certainly be very erroneous in our calculations.

The ufe of the bile is to attenuate the chyle, to mix the oleagenous parts of the blood with the aqueous, to ftimulate the inteftines, and in part to change the acid of the chyle. All thefe effects the cyftic bile produces in a greater, and the hepatic in a lefs degree.

The bile is a juice of great importance with regard to the good or ill habit of the animal.

animal. We have already feen how it operates upon the chyle, the blood, *&c.* to which we may add, that it likewife affifts in digeftion, by promoting putrefaction. A redundance of bile occafions many and terrible difeafes, which, according to to the feat of the humors, their acrimony, or vent given them, will appear in the fhape of a remitting or intermitting fever, a cholera, or dyfentery. Too great an evacuation of the bile, either upwards or downwards, robs the chylefaction of its main inftrument. Hence it prevents digeftion, fecretion, excretion of the fæces, and produces an acid temperature, coldnefs, weaknefs, palenefs and fwoonings. And if the bile be prevented in its difcharge into the inteftines, it produces a jaundice.

Of atra bilis, or black bile, Boerhaave diftinguifhes three forts. 1ft. The mildeft, arifing from the matter of the blood put into too great a motion, which hence takes the name of aduft: the 2d is an aggravation of the firft, arifing from the fame caufes, only heightened: and the 3d is a corrupt parched bile, which is the worft of all. See the article BILIOUS.

BILEDULGERID, one of the divifions of Africa, having Barbary on the north, and Zaara, or the defart, on the fouth.

BILEVELT, a town of Weftphalia, in Germany, about feven miles fouth-eaft of Ravenfburg: eaft longitude 8° 15′, north latitude 52°.

It is fubject to the king of Pruffia.

BILINGUIS, in a general fenfe, fignifies one that fpeaks two languages; but in law, is ufed for a jury that paffes in any cafe between an englifhman and a foreigner, whereof part ought to be englifh, and part ftrangers.

BILIOUS, in general, denotes fomething belonging to, or partaking of, the nature of bile. Hence,

BILIOUS FEVERS are thofe occafioned by the over-copioufnefs, or bad qualities of the bile. See the article BILE.

Concerning the bilious fever, which Dr. Pringle fays is epidemic in marfhy countries and camps, he obferves, that it begins with chilnefs and laffitude, pains in the head and bones, and a diforder at the ftomach. At night the perfon gets no reft, and often becomes delirious; but, generally, in the morning, an imperfect fweat brings on a remiffion of all the fymptoms. In the evening, the paroxyfm returns, but without any cold fit, and is commonly worfe than before. On the fecond morning, it remits as before; and thefe periods go on daily, till it infenfibly changes either into a continued or an intermitting fhape.

The doctor enumerates other fymptoms of this terrible difeafe, as crudenefs of the urine, bilious ftools, coftivenefs, *&c.* and obferves, that its cure, before it becomes continued, is to be attempted by evacuations, the neutral falts, and the bark. Bleeding he judges indifpenfible; which fhould be repeated once, or oftener, according to the urgency of the fymptoms. After bleeding, it is proper to give an emetic during the remiffion of the fever; but if the ftomach be inflamed, vomits are dangerous, and therefore ought never to be given. Ipecacuanha, he obferves, is the fafeft and eafieft, but antimonials make the moft efficacious vomits. If the body remains coftive, it is proper to open it by lenient phyfic. He likewife recommends falt of wormwood, lemon-juice, fpiritus mindereri, and the bark; which laft ought not to be given till the urine breaks, and the intermiffions take place. Bleeding and purging are alfo neceffary before the bark is given, which he thinks anfwers beft in fubftance, adminiftred in rhenifh wine, after ftanding a night in infufion.

If it changes into a continued fever, bleeding becomes neceffary; and blifters are not only ufeful, but the very beft remedy: to thefe may be joined the neutral falts, and diaphoretic powders.

The doctor farther obferves, that tho' a fweat be the proper crifis, it ought never to be promoted by theriaca, or the like hot medicines; unlefs the pulfe fhould fink, and the petechiæ, or other bad fymptoms, appear; in which cafe, the warmer alexipharmics are highly neceffary, as the difeafe has then changed into a malignant fever. See the article MALIGNANT.

BILIOUS COLIC. See the article COLIC.

BILL, an inftrument made of iron, edged in the form of a crefcent, and adapted to a handle. It is ufed by plumbers, to perform feveral parts of their work; by bafket-makers, to cut the largeft pieces of chefnut trees and other wood; and by gardeners, to prune trees. When fhort, it is called a hand-bill, and when long, a hedge-bill.

BILL fignifies alfo a paper, either written or printed, in very large characters, which

which is posted up in some open and public place, to give notice of the sale of any merchandize or ship, or of the sailing of any vessel into foreign parts. The great conveniency of advertising in the public papers, makes bills of this nature less necessary in England than in other countries.

BILL *in trade*, both wholesale and retail, as also among workmen, signifies an account of merchandizes or goods delivered to a person, or of work done for one. In those bills, must be set down the sums of money received on account, which ought to be deducted from the sum total.

Settled BILL, a bill at the bottom of which, they to whom the goods are delivered, acknowledge that they have received them; that they are satisfied with the price, and promise to pay it. As soon as a bill is settled, the merchant or tradesman is sure against all exceptions at law, and may claim his debt even during thirty years.

BILL *of credit*, that which a merchant or banker gives to a person whom he can trust, impowering him to receive money from his correspondents in foreign countries. Though bills of credit be different from bills of exchange, yet they enjoy the same privileges; for the money paid in consequence of them, is recoverable by law.

BILL *of entry*, an account of the goods entered at the custom-house, both inwards and outwards. In this bill must be expressed, the merchant exporting or importing; the quantity of merchandize, and the divers species thereof; and whither transported, or from whence.

BILL *of exchange*, a piece of paper on which is written a short order, given by a merchant, &c. for paying to such a person, or his order, and in some countries to the bearer in a distant place, a sum of money equivalent to that which such a merchant, &c. has received in his dwelling-house.

There are three things necessary to constitute a bill of exchange. 1. That it be drawn in one city upon another. 2. That there be three persons concerned, the drawer, the presenter, or person for whom it is drawn, and the acceptor, or he on whom it is drawn. And, 3. That it make mention, that the value which the drawer has received, is either in bills of exchange, in money, merchandize, or other effects, which are to be expressed.

These bills are made payable either at sight, or so many days, weeks, or months after date; the space of a month being called usance, and two or three months after date, double or treble usance. There is a difference between an inland bill and foreign bill; for an inland bill of exchange, is said to be only in the nature of a letter; but a foreign or outland bill is more regarded in law; because it is for the advantage of commerce with other countries, which makes it of a public concern.

Not only the drawer, but every indorser of a bill is liable for the payment thereof; for an indorser charges himself in the same manner, as if he had originally drawn the bill: and a plaintiff, in an action in such case, is not obliged to prove the drawer's hand, because the indorser is as a new drawer; but he must make proof that he demanded the money of the drawer, or drawers, or that he sought after, and could not find them in convenient time: for, by the custom among merchants, the indorsee is to receive the money of the first drawer, if he can, and if he cannot, then, and not before the indorser must answer it.

The forging bills of exchange, or any acceptance, and stealing such bills for money is felony.

BILL *of lading*, an acknowledgment signed by the master of a ship, and given to a merchant, &c. containing an account of the goods which the master has received on board from that merchant, &c. with a promise to deliver them at an intended place for a certain salary. Each bill of lading must be treble, one for the merchant who loads the goods, another to be sent to the person to whom they are consigned, and the third to remain in the hands of the master of the ship. It must be observed, however, that a bill of lading is used only when the goods sent on board a ship are but part of the cargo: for when a merchant loads a whole vessel for his own personal account, the deed passed between him and the master of the ship is called charter-party. See the article CHARTER-PARTY.

BILL *of parcels*, an account given by the seller to the buyer, containing the particulars of all the sorts and prices of the goods bought.

BILL *of sale*, is when a person wanting a sum of money, delivers goods as a security to the lender, to whom he gives

this

this bill, impowering him to ſell the goods, in caſe the ſum borrowed is not repaid, with intereſt, at the appointed time.

BILL *of ſtore*, a licence granted at the cuſtom-houſe to merchants, by which they have liberty to carry, cuſtom-free, all ſuch ſtores and proviſions as they may have occaſion for during their voyage.

BILL *of ſufferance*, a licence granted to a merchant at the cuſtom-houſe, ſuffering him to trade from one engliſh port to another, without paying cuſtom.

Bank-BILL, a private inſtrument whereby private perſons become intitled to a part in the bank ſtock. See the article BANK.

BILL, in law, a ſecurity for money under the hand, and ſometimes the ſeal, of the debtor. It is of two ſorts, a ſingle bill without a penalty, or a bill with a penalty, called a penal bill; which laſt is all one with what we call a bond or obligation, only it has not a condition. See the article BOND.

BILL denotes alſo a declaration, in writing, expreſſing either ſome wrong the complainant has ſuffered by the defendant, or elſe a fault that the party complained of has committed againſt ſome law or ſtatute of the realm.

This bill is ſometimes exhibited to juſtices at the general aſſiſes, by way of indictment, or referred to others having juriſdiction; but more eſpecially is addreſſed to the lord-chancellor, for inconſcionable wrongs done. It contains the thing or fact complained of, the damage ſuſtained, and a petition or proceſs againſt the defendant for redreſs; and is uſed both in criminal and civil caſes. In a criminal caſe, the words

BILLA VERA are indorſed by the grand jury upon a preſentment, thereby ſignifying, that they find the ſame made with probable evidence, and on that account worthy of farther conſideration.

BILL *in parliament*, a paper containing propoſitions offered to the houſes to be paſſed by them, and then preſented to the king to paſs into a law.

BILL *of attainder*, } See { ATTAINDER.
BILL *of appeal*, } See { APPEAL.
BILL *of mortality*, } See { MORTALITY.

BILLERICAY, a market-town of Eſſex, about twenty miles eaſt of London: eaſt longitude 20′, north latitude 51° 35′.

BILLET, in heraldry, a bearing in form of a long ſquare. They are ſuppoſed to repreſent pieces of cloth of gold or ſilver, but Guilim thinks they repreſent a letter ſealed up; and other authors take them for bricks.

Billeté ſignifies that the eſcutcheon is all over ſtrewed with billets, the number not aſcertained. See plate XXVIII. fig. 3.

BILLET-WOOD, ſmall wood for fuel, cut three feet and four inches long, and ſeven inches and a half in compaſs; the aſſize of which is to be inquired of by juſtices.

BILLETTING, in military affairs, is the quartering of ſoldiers in the houſes of a town or village. And among fox-hunters, it ſignifies the ordure and dung of a fox.

BILLIARDS, an ingenious kind of game played on an oblong table, covered with green cloth, and placed exactly level, with little ivory balls, which are driven by crooked ſticks, made on purpoſe, into hazards or holes on the edge and corners of the table, according to certain rules of the game.

BILLINGHAM, a market-town of Northumberland, about twenty-five miles north-weſt of Newcaſtle: weſt longitude 1° 40′, and north latitude 55° 20′.

BILLON, in the hiſtory of coins, a compoſition of precious and baſe metals, where the latter predominant. Wherefore gold under twelve carats fine, is called billon of gold; and ſilver under ſix penny-weight, billon of ſilver. So little attention was paid formerly to the purity of gold and ſilver, that the term billon of gold, was applied only to that which was under twenty-one carats; and billon of ſilver to that which was lower than ten penny-weight.

BILLON, in geography, a town of the lower Auvergne, in the Lyonois, in France, about ten miles ſouth-eaſt of Clermont: eaſt longitude 3° 25′, and north latitude 45° 40′.

BILSDON, a market-town of Leiceſterſhire, about ſeven miles ſouth-eaſt of Leiceſter; weſt longitude 50′, and north latitude 52° 40′.

BILSEN, a town of Germany, about ſix miles weſt of Maeſtricht: eaſt longitude 5° 30′, and north latitude 51°.

BIMEDIAL, in mathematics. If two medial lines, as AB and BC, commenſurable only in power, containing a rational rectangle, are compounded, the whole line AC will be irrational, and is called a firſt bimedial line.

A ———————— B ———— C

See Euclid. lib. X. prop. 38.

BIMLIPATAN, a port-town of Golconda,

da in India, where the Dutch have a factory. It is situated on the west side of the Bay of Bengal, in 83° east longitude, and 18° north latitude.

BINARY ARITHMETIC, that wherein unity, or 1 and 0, are only used.

This was the invention of Mr. Leibnitz, who shews it to be very expeditious in discovering the properties of numbers, and in constructing tables; and Mr. Dangecourt, in the history of the royal academy of sciences, gives a specimen of it concerning arithmetical progressionals; where he shews that, because in binary arithmetic, only two characters are used, therefore the laws of progression may be more easily discovered by it than by common arithmetic.

All the characters, used in binary arithmetic are 0 and 1, and the cypher multiplies every thing by 2, as in the common arithmetic by 10. Thus, 1 is one; 10, two; 11, three; 100, four; 101, five; 110, six; 111, seven; 1000, eight; 1001, nine; 1010, ten; which is built on the same principles with common arithmetic.

The author, however, does not recommend this method for common use, because of the great number of figures required to express a number; and adds, that if the common progression were from 12 to 12, or from 16 to 16, it would be still more expeditious.

BINARY MEASURE, in music, is a measure which is beaten equally, or where the time of rising is equal to that of falling. This is usually called common time, besides which there is a binary triple. See the articles MEASURE, TIME, and TRIPLE.

BINARY NUMBER, that composed of two units. See the article NUMBER.

BINBROKE, a market-town of Lincolnshire, about twenty-five miles north-east of Lincoln: east longitude 6′, and north latitude 53° 32′.

BINCH, a little fortified town of Hainault, ten miles east of Mons: east longitude 4° 20′, and north latitude 50° 30′.

BINDING, among fencers, denotes the securing the adversary's sword, which is effected by a pressure and spring from the wrist.

BINDING, in falconry, a term which implies tiring, or when a hawk seizes.

BIND-WEED, *convolvulus*, in botany. See the article CONVOLVULUS.

BINGEN, a town of the electorate of Mentz, about sixteen miles west of that city: east longitude 7° 20′, and north latitude 50°.

BINGLEY, a market-town, in the west-riding of Yorkshire, about thirty miles west of York: west longitude 1° 40′, and north latitude 53° 45′.

BINOCULAR TELESCOPE, a kind of dioptric telescope fitted with two tubes joined in such a manner, that one may see a distant object with both eyes, at the same time.

BINOMIAL, in algebra, a root consisting of two members connected by the sign + or —. Thus $a+b$ and $8-3$ are binomials, consisting of the sums and differences of these quantities.

The powers of any binomial are found by a continual multiplication of it by itself. For example, the cube or third power of $a+b$, will be found by multiplication to be $a^3+3a^2b+3ab^2+b^3$; and if the powers of $a-b$ are required, they will be found the same as the preceding, only the terms in which the exponent of b is an odd number, will be found negative. Thus, the cube of $a-b$ will be found to be $a^3-3a^2b+3ab^2-b^3$, where the second and fourth terms are negative, the exponent of b being an odd number in these terms. In general, the terms of any power of $a-b$ are positive and negative by turns.

It is to be observed, that in the first term of any power of $a+b$, the quantity a has the exponent of the power required, that in the following terms, the exponents of a decrease gradually by the same differences, *viz.* unit, and that in the last terms it is never found. The powers of b are in the contrary order; it is never found in the first term, but its exponent in the second term is unit; in the third term, its exponent is 2, and thus its exponent increases till in the last term it becomes equal to the exponent of the power required.

As the exponents of a thus decrease, and and at the same time those of b increase; the sum of their exponents is always the same, and is equal to the exponent of the power required. Thus, in the sixth power of $a+b$, *viz.* $a^6+6a^5b+15a^4b^2+20a^3b^3+15a^2b^4+6ab^5+b^6$, the exponents of a decrease in this order 6, 5, 4, 3, 2, 1, 0; and those of b increase in the contrary order 0, 1, 2, 3, 4, 5, 6. And the sum of their exponents in any term is always 6.

In general, therefore, if $a+b$ is to be raiſed to any power m, the terms without their coefficients will be a^m, $a^{m-1}b$, $a^{m-2}b^2$, $a^{m-3}b^3$, $a^{m-4}b^4$, $a^{m-5}b^5$, &c. continued till the exponent of b become equal to m.

The coefficients of the reſpective terms will be 1, m, $m \times \frac{m-1}{2}$, $m \times \frac{m-1}{2} \times \frac{m-2}{3}$, $m \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4}$, $m \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4} \times \frac{m-4}{5}$, &c. continued until you have one coefficient more than there are units in m. See the article COEFFICIENT.

It follows therefore by theſe rules, that $\overline{a+b}^m = a^m + m a^{m-1} b + m \times \frac{m-1}{2} \times a^{m-2} b^2 + m \times \frac{m-1}{2} \times a^{m-3} b^3 + m \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4} \times a^{m-4} b^4 +$, &c. which is the binomial or general theorem, for raiſing a quantity conſiſting of two terms to any power m.

The ſame general theorem will alſo ſerve for the evolution of binomials, becauſe to extract any root of a given quantity, is the ſame thing as to raiſe that quantity to a power whoſe exponent is a fraction that has its dinominator equal to the number that expreſſes what kind of root is to be extracted. Thus, to extract the ſquare root of $a+b$, is to raiſe $a+b$ to a power whoſe exponent is $\frac{1}{2}$. Now $\overline{a+b}^m$ being found as above; ſuppoſing $m = \frac{1}{2}$, you will find $\overline{a+b}^{\frac{1}{2}} = a^{\frac{1}{2}} + \frac{1}{2} \times a^{-\frac{1}{2}} b + \frac{1}{2} \times -\frac{1}{4} \times a^{-\frac{3}{2}} b^2 + \frac{1}{2} \times -\frac{1}{4} \times -\frac{1}{2} a^{-\frac{5}{2}} b^3 +$, &c. $= a^{\frac{1}{2}} + \frac{b}{2a^{\frac{1}{2}}} - \frac{b^2}{8a^{\frac{3}{2}}} + \frac{b^3}{16a^{\frac{5}{2}}} -$, &c.

BIOGRAPHER, one who writes the lives of particular perſons, as Plutarch, Suetonius, &c. See the next article.

BIOGRAPHY, a very entertaining and inſtructive ſpecies of hiſtory, containing the life of ſome remarkable perſon, or perſons.

Lord Bacon regrets, that the lives of eminent men are not more frequently written; for, adds he, though kings, princes, and great perſonages be few; yet there are many other excellent men, who deſerve better than vague reports, and barren elogies.

BIORNBURG, a town of Finland, ſituated on the eaſtern ſhore of the Bothnic gulph: eaſt long. 21°, and north lat. 62.

BIOTA, in zoology, a genus of ſea-inſects, of a cylindric, but variable figure, with the tentacula arranged in a ſingle ſeries round the aperture of the mouth, at the extremity of the body.

Among the ſeveral other ſpecies of this genus is the polype. See POLYPE.

BIOUAC, in military affairs, a night-guard, performed by the whole army, when there is any apprehenſion of danger from the enemy.

BIPENNIS, in roman antiquity, an ax with a double edge, one of which was uſed in ſtabbing, and the other in cutting.

BIQUADRATIC POWER, in algebra, the fourth power or ſquared ſquare of a number, as 16 is the biquadratic power of 2; for 2 × 2 is 4, and 4 × 4 is equal to 16.

BIQUADRATIC ROOT of a number, is the ſquare root of its ſquare root: thus the biquadratic root of 81 is 3; for the ſquare root of 81 is 9, and the ſquare root of 9 is 3.

BIQUADRATIC EQUATION, an equation where the unknown quantity of one of the terms has four dimenſions.

Any biquadratic equation may be conceived as generated by the multiplication of four ſimple equations. Thus if $x=a$, $x=b$, $x=c$, $x=d$, or $x-a=0$, $x-b=0$, $x-c=0$, $x-d=0$; then will $x-a \times x-b \times x-c \times x-d = 0$, beget a biquadratic equation. Or it may be formed of two quadratic equations, as $\overline{x^2+bx+c} \times \overline{x^2+dx+e} = 0$; or, laſtly, it may be produced from the multiplication of one cubic and one ſimple equation, as $\overline{x-a} \times \overline{x^3+cx^2+dx+e} = 0$. For the conſtruction and reſolution of biquadratic equations, See the articles EQUATION, and CONSTRUCTION *of equations*.

BIQUINTILE, an aſpect of the planets, when they are 144 degrees from each other.

BIR, a city of Diarbeck, or Meſopotamia, ſituated on the river Euphrates, about ſeventy miles ſouth-eaſt of Aleppo, in 40° eaſt long. and 35° 20′ north latitude.

BIRCH-TREE, in botany, betala. See the article BETALA.

BIRD, *avis*, in zoology, one of the six general classes of animals, the characters of which are, that their body is covered with feathers, and that they have two wings, two legs, and a bill of a firm bony or rather horny substance: add to this, that the females are all oviparous.

The knowledge of birds, of the orders and genera into which they are subdivided, and of their natures, uses, figures, &c. constitutes a particular science, under the name of ornithology.

Birds have been usually divided into terrestrial and aquatic, or land and water birds; but this division is too general, as well as indeterminate: a much more certain distinction of birds is founded on the different shapes and structure of their beaks, from which alone they are naturally arranged under the six following orders. 1. The *accipitres*, or those which have the beak uncinated, or hooked. 2. The *picæ*, or those with convex and compressed beaks. 3. The *anseres*, or those with dentated or serrated beaks. 4. The *scolopaces*, or those furnished with subcylindric and obtuse beaks. 5. The *gallinæ*, comprehending such birds as have the beak of a conic form, but crooked, and the upper chap imbricated. 6. The *passeres*, or those with conic and attenuated beaks. See the articles ACCIPITER, PICÆ, &c.

We meet with several other distinctions of birds, taken from their manner of feeding; as carnivorous ones, or birds of prey; frugivorous and granivorous birds, or such as feed on fruits and the seeds of various plants; insectivorous birds, or those which feed principally on insects: and so in other cases.

As to the constituent parts of birds, it is remarkable that the head is generally small in proportion to the rest of the body; that the eyes are more plain and depressed than in quadrupeds; and that they have no external auricle, or ear. See the articles WING, BILL, TAIL, &c.

Singing birds are valued, in the book of rates, at 9 s. the dozen, and pay duty 2 s. $1\frac{85}{100}$ d. whereof 1 s. $11\frac{28}{100}$ d. is drawn back on exporting them. All other birds are valued at 12 s the dozen, and pay duty 2 s. $10\frac{47}{100}$ d. whereof 2 s $7\frac{5}{100}$ d. is drawn back.

BIRD *of paradise*. See PARADISE.

Black BIRD, the english name of the *merula vulgaris* of ornithologists. See the article MERULA.

BIRDS, in heraldry, according to their several kinds, represent either the contemplative or active life. They are the emblems of liberty, expedition, readiness, swiftness, and fear. They are more honourable bearings than fishes, because they participate more of air and fire, the two noblest and highest elements, than of earth and water.

Birds must be borne in coat-armour, as is best fitting the propriety of their natural actions of going, sitting, standing, flying, &c.

Birds that are either whole footed, or have their feet divided, and yet have no talons, are said to be membered; but the cock, and all birds of prey with sharp and hooked beaks and talons, for encounter or defence, are termed armed.

In the blazoning of birds, if their wings be not displayed, they are said to be borne close; as, he beareth an eagle, &c. close.

BIRD LIME, a viscid substance, prepared after different ways. The most common bird lime among us, is made from holly-bark, boiled ten or twelve hours; when the green coat being separated from the other, it is covered up a fortnight in a moist place, then pounded into a tough paste, so that no fibres of the wood are discernible, and washed in a running stream till no motes appear; put up to ferment four or five days, skimmed as often as any thing arises, and laid up for use. To use it, a third part of nut-oil, or thin grease, must be incorporated with it over the fire.

The Italians make bird lime of the berries of the missleto-tree. That which comes from Damascus is supposed to be made of sebestens: and it is said that the bark of our *lantona*, or way-faring shrubs, will make very good bird-lime.

BIRD'S NEST, in botany, the english name of the neottia. See the article NEOTTIA.

BIRD'S NESTS, in cookery, the nests of a small indian swallow, very delicately tasted, and frequently mixed among soups. On the sea-coasts of China, at certain seasons of the year, there are seen vast numbers of these birds; they leave the inland country at their breeding-time, and come to build in the rocks, and fashion their nests out of a spumous matter, which they find on the shore washed thither by the waves. They are of a hemispheric figure, and of the size of a goose's egg, and, in substance, much resemble the ichthyocolla or isinglass.

The

The Chinese gather these nests, and sell them to all parts of the world; they dissolve in broths, &c. and make a kind of jelly of a very delicious flavour.

BIREMIS, in roman antiquity, a vessel with two rows of oars, concerning the disposition of which authors are not agreed.

BIRETUM, or BIRRETUM, a sort of black bonnet, or covering of the head, in form of a pyramid, much used in Italy and France about five or six hundred years ago, as a badge of victory, honour, or sacerdotal preferment.

BIRKENFIELD, a town of Germany, about forty miles west of Mentz, situated in 6° 40′ east longit. and 49° 45′ north latitude.

BIRMINGHAM, a large populous town in Warwickshire, about sixteen miles north-west of Coventry, situated in 1° 50′ west long. and 52° 30′ north lat. It is remarkable for its iron manufactory.

BIROTA, or BIROTUM, in roman antiquity, a kind of vehicle, so denominated from its moving upon two wheels. It carried about two hundred pound weight, and was drawn by three mules.

BIRRUS, in roman antiquity, a cloak, made of woollen cloth, worn by the soldiers: also a robe worn by the priests or bishops.

BIRTH, *partus*, in midwifery, signifies the same with delivery. See the article DELIVERY.

An immature birth, or that which happens before the usual time of pregnancy is completed, is otherwise called an abortion. See the article ABORTION.

For the proportion of births to marriages, burials, &c. See the articles MARRIAGE, MORTALITY, &c.

After-BIRTH. See AFTER-*birth*.

BIRTH, or BIRTHING, in the sea-language, a convenient place to moor a ship in; also a due distance observed by ships lying at anchor, or under sail; and a proper place aboard for a mess to put their chests, &c. is called the birth of that mess.

BIRTH-WORT, *aristolochia*, in botany, a genus of the *gynandria-hexandria* class of plants, the flower of which consists of a single petal, of a ligulated form, and a pale colour; there stand several of them together at the alæ of the leaves: the fruit is a large roundish capsule, as big as an apple; the seeds are numerous, depressed, and disposed in six cells. See plate XXVIII. fig. 4.

The roots of this plant are said to be cephalic, vulnerary and uterine; they are also classed by some among the alexipharmics, and recommended highly in diseases of the breast: the principal virtue, however, now ascribed to them is that of promoting the menses, and the lochia after delivery: it is said to have so much force this way, as to cause abortion if given to a woman with child.

BIRZA, a town of Samogitia, in Poland, about forty-two miles south-east of Mittau, situated in 25° east long. and 56° 35′ north latitude.

BISCAY, the most northerly province of Spain, from which the Bay of Biscay takes its name.

New BISCAY, a province of Mexico, having new Mexico on the north, and Florida on the west.

BISCHWEILLER, a fortress of Alsace, subject to the French, situated about five miles west of Port Lewis, in 7° east lon. and 48° 40′ north latitude.

BISCUTELLA, in botany, a genus of the *tetradynamia-siliculosa* class of plants, called by Tournefort *thlaspidium*, the flower of which is cruciform, consisting of four petals; and its fruit a small, bilocular, erect, and compressed pod, containing a single, roundish, and compressed seed.

BISERRULA, in botany, a genus of the *diadelphia-decandria* class of plants: the flowers are papilionaceous, small, and reddish, standing in clusters on long pedicles; the fruit is a large pod with two cells, containing numerous kidney-shaped and compressed seeds.

BISERTA, a port-town of the kingdom of Tunis, in Africa, situated on the Mediterranean, near the place where Utica antiently stood, and about forty miles north of Tunis, in 9° east lon. and 37° north latitude.

BISHOP, ἐπίσκοπος, a prelate, or person consecrated for the spiritual government of a diocese.

Whether the distinction of bishops from mere priests or presbyters be of divine or human right, whether it was settled in the apostolical age, or introduced since, is much controverted. It is certain, that in the New Testament the names of bishops and priests are used indifferently; but tradition, the fathers, and the apostolical constitutions make a distinction. From this last consideration bishops are conceived as the highest ecclesiastical dignities,

nities, the chief officers in the hierarchy, or œconomy of church-government, as the fathers and paſtors of the faithful, the ſucceſſors of the apoſtles, and, as ſuch, the ſuperiors of the church of Chriſt.

In the primitive church it appears that there was but one biſhop in a church, and but one church to a biſhop; the peculiar acts of the epiſcopal function were preaching the word, praying with the people, adminiſtering the two ſacraments of baptiſm and the euchariſt, taking care of the poor, ordaining of miniſters, governing his flock, excommunicating offenders, and abſolving of penitents. The election of a biſhop was jointly in the hands of the clergy and laity of the biſhopric or pariſh which became vacant; when they elected a biſhop, they preſented him to the neighbouring biſhops, for their approbation and conſent, without which his election was not valid. A biſhop thus choſen and ordained, always gave notice of his advancement to the moſt renowned biſhops of the church.

As to the form of ordination, it was thus; two biſhops held the book of the goſpels over the head of that biſhop which was ordained, and whilſt one pronounced the bleſſing, or prayer of conſecration, all the reſt of the biſhops that were preſent laid their hands upon his head.

In the church of Rome the pope has the chief right of electing biſhops, nevertheleſs ſome princes have reſerved to themſelves the right of nominating to biſhoprics, after which the pope ſends his approbation, and the bulls to the new biſhop. When a perſon hears that the pope has raiſed him to the epiſcopal dignity, he enlarges his ſhaven crown, dreſſes himſelf in purple, and if he be in Rome, he muſt go and receive the rochet from the pope; three months after having been confirmed in his election, he is conſecrated in a very ſolemn manner.

Upon the vacancy of a biſhop's ſee in England, the king grants his conge d'eſlire to the dean and chapter, to elect the perſon whom, by his letters miſſive, he hath appointed; and if they do not make the election in twenty days, they are to incur a premunire. The dean and chapter having made their election accordingly, the archbiſhop, by the king's direction, confirms the biſhop, and afterwards conſecrates him, by impoſition of hands, according to the form laid down in the Common prayer book. Hence we ſee that a biſhop differs from an archbiſhop in this, that an archbiſhop with biſhops conſecrates a biſhop, as a biſhop with prieſts conſecrates a prieſt: other diſtinctions are, that an archbiſhop viſits a province, as a biſhop a dioceſe; that an archbiſhop convocates a provincial ſynod, as a biſhop does a dioceſan one; and that the archbiſhop has canonical authority over all the biſhops of his province, as a biſhop has over the prieſts of his dioceſe.

The juriſdiction of a biſhop of the church of England conſiſts in collating benefices, granting inſtitutions, commanding inductions, taking care of the profits of vacant benefices for the uſe of the ſucceſſors, conſecrating churches and chapels, ordaining prieſts and deacons, confirming after baptiſm, granting adminiſtrations, and taking probates of wills; theſe parts of his function depend upon the eccleſiaſtical law. By the common law, he is to certify to the judges concerning legitimate and illegitimate births and marriages; and to his juriſdiction, by the ſtatute law, belongs the licenſing of phyſicians, ſurgeons, and ſchool-maſters, and the uniting of ſmall pariſhes, which laſt privilege is now peculiar to the biſhop of Norwich.

All biſhops of England are peers of the realm, except the biſhop of Man, and as ſuch ſit and vote in the houſe of lords; they are barons in a threefold manner, *viz.* feudal, in regard to the temporalities annexed to their biſhoprics; by writ, as being ſummoned by writ to parliament; and laſtly, by patent and creation: accordingly they have the precedence of all other barons, and vote as barons and biſhops, and claim all the privileges enjoyed by the temporal lords, excepting that they cannot be tried by their peers, becauſe, in caſes of blood, they themſelves cannot paſs upon the trial, for they are prohibited, by the canons of the church to be judges of life and death.

BISHOP'S COURT, an eccleſiaſtical court, held in the cathedral of each dioceſe, the judge whereof is the biſhop's chancellor, who judges by the civil and canon law; and if the dioceſe be large, he has his commiſſaries in remote parts, who hold what they call conſiſtory courts, for matters limited to them by their commiſſion.

BISHOP'S-CASTLE, a borough town in Shropſhire, ſituated on the river Ony, about

about fifteen miles ſouth-weſt of Shrewſbury; weſt long. 3°, and north latitude 52° 30′.

BISHOP AND HIS CLERKS, ſome little iſlands and rocks on the coaſt of Pembrokeſhire, not far from St. David's, very fatal to mariners.

BISHOP'S STORTFORD, a market-town in Hertfordſhire, thirty miles north of London, and only ten miles north-eaſt of Hertford; eaſt longit. 20′, and north latitude 51° 50′.

BISHOPING, a term among horſe-courſers, to denote the ſophiſtications uſed to make an old horſe appear young, a bad one good, &c.

BISHOPRIC, the diſtrict over which a biſhop's juriſdiction extends, otherwiſe called a dioceſe.

In England there are twenty-four biſhoprics, and two archbiſhoprics; in Scotland, none at all; in Ireland, eighteen biſhoprics and four archbiſhoprics; and in popiſh countries they are ſtill more numerous.

BISIGNANO, a city of the hither Calabria, in the kingdom of Naples; eaſt lon. 16° 45, and north latit. 39° 50′.

BISKET, a kind of bread prepared by the confectioners, of fine flour, eggs, and ſugar, and roſe or orange-water; or of flour, eggs, and ſugar, with aniſeeds and citron-peel, baked again and again in the oven, in tin or paper moulds. There are divers ſorts of biſkets, as ſeed-biſket, fruit-biſket, long-biſket, round biſket, naples-biſket, ſpunge-biſket, &c.

Sea-BISKET is a ſort of bread much dried by paſſing the oven twice, to make it keep for the ſea ſervice. For long voyages they bake it four times, and prepare it ſix months before the embarkation. It will hold good a whole year.

BISMUTH, in natural hiſtory, a genus of the ſemi-metals, as they are called; the moſt uſual appearance of which is in form of an ore, intimately mixed with ſilver, a large quantity of arſenic, and an earthy matter, which yields a blue colour equal to the zaffer or ſmalt procured from cobalt.

This ore is uſually of a bright ſilvery white, and of an irregularly foliaceous ſtructure, though ſometimes found granulated. In the fuſion of this ore the ſulphur and arſenic evaporate, and the reguline matter being thereby freed from its impriſoned ſtate, runs off from the earthy matter, which remains fixed behind. See the article SMALT.

Biſmuth is ſometimes found native, in ſmall compact maſſes, of a pale lead colour on the out-ſide, but a ſilvery white within.

Biſmuth attenuates the parts of all other metals, and thereby promotes their fuſion. It is ſoluble in vinegar, like lead; diſſolved in ſtronger acids, it yields the famous coſmetic magiſtery, and is a very valuable ingredient in the mixed metals uſed in caſting types, and for bell-metal.

Biſmuth is very common in Germany, and not unfrequently found in the tin-mines of Cornwall, though little known, or at leaſt regarded there.

BISNAGAR, the capital of a province of the ſame name in the hither peninſula of India: eaſt longitude 78°, and north latitude 14°.

BISNOW, or BISCHNOU, a ſect of the Banians in the Eaſt Indies; they call their god Ram-ram, and give him a wife: they adorn his image with golden chains, necklaces of pearls, and all ſorts of precious ſtones. They ſing hymns in honour of their god, mixing their devotion with dances and the ſound of drums, flagelets, brazen baſons, and other inſtruments. This ſect lives wholly upon herbs and pulſe, butter and milk.

BISOMUM, or DISOMUM, in roman antiquity, a ſepulchre, or vault, containing two dead bodies. On the tombs of the primitive chriſtians were wont to be inſcribed the words *biſomi* or *triſomi*, or *quadriſomi*, &c. that by theſe means they might the eaſier calculate the number of their dead.

BISQUET, or BISKET. See BISKET.

BISSECTION, in geometry, the diviſion of a line, angle, &c. into two equal parts, See the articles LINE, ANGLE, &c.

BISSEXTILE, in chronology, a year conſiſting of three hundred and ſixty-ſix days, being the ſame with our leap-year.

The true ſolar year, or that ſpace of time which flows while the ſun is moving from any one point of the ecliptic, till he returns to the ſame point again, conſiſts of 365 days, 5 hours, 48 minutes, 57 ſeconds. The year made uſe of by the antient Egyptians conſiſted of 365 days, which being leſs than the true ſolar year by nearly ſix hours, they loſt a day every four years. Julius Cæſar being high-prieſt among the Romans, and conſidering the inconveniences ariſing from this method of computation, ordered that every fourth year ſhould have an intercalary

calary day, and that this additional day ſhould be added to the month of February; wherefore this method of computation is called the julian account, or old ſtile. See the article LEAP-YEAR.

Yet, as the true length of the year conſiſts of 365 day, 5 hours, 49 minutes nearly, it follows that, according to this way of reckoning, at the end of every four years the civil year will begin 44 minutes ſooner than it did before, conſequently in 331 years, it will anticipate by one whole day: for this reaſon pope Gregory XIII. ſet himſelf upon reforming the calendar, and finding, in the year 1582, that the equinox had anticipated ten whole days, he ordered that theſe ten days ſhould be taken out of the calendar that year, and the 11th of March ſhould be reckoned the 21ſt; and ordered that every hundred year, which, according to the julian form, was to be biſſextile, ſhould be a common year, and conſiſt of 365 days: but becauſe that was too much, every four hundred year was to remain biſſextile. This method of computation is called the gregorean, or new ſtile; it was received in moſt foreign countries ever ſince the reforming of the calendar; and by act of parliament paſſed in 1751, it commenced in all the dominions under the crown of Great-Britain, in the year following, ordering that the natural day following the ſecond of September, ſhould be accounted the fourteenth, omitting the intermediate eleven days of the common calendar.

BISTER, or BISTRE. See BISTRE.

BISTORT, *polygonum*, in botany, a genus of the *octandria trigynia* claſs of plants, whoſe corolla conſiſts of a ſingle petal, narrow at the baſe, and imperforated: the limb is erect, and divided into five oval and alternately connivent ſegments; the flower remains, and ſupplying the place of a pericarpium, ſurrounds the ſeed, which is ſingle, triquetrous, and acute. See plate XXVIII. fig. 5.

The root is aſtringent, vulnerary, and alexipharmic.

BISTOURY, in ſurgery, an inſtrument for making inciſions, of which there are different kinds, ſome being of the form of a lancet, others ſtrait and fixed in the handle like a knife, and others crooked with the ſharp edge on the inſide.

BISTRE, or BISTER, among painters, denotes gloſſy ſoot, pulveriſed and made into a kind of cakes, with gum-water. It is uſed to waſh their deſigns. See the article WASHING.

BIT, or BITT, an eſſential part of a bridle. Its kinds are various: 1. The muſrol, ſnaffle, or watering-bit. 2. The canon-mouth, jointed in the middle. 3. The canon with a faſt mouth, all of a piece, only kneed in the middle, to form a liberty or ſpace for the tongue; fit for horſes too ſenſible, or ticklish, and liable to be continually bearing on the hand. 4. The canon-mouth, with the liberty in form of a pigeon's neck; proper where a horſe has too large a tongue. 5. The canon with a port mouth, and an upſet or mounting liberty; uſed where a horſe has a good mouth but a large tongue. 6. The ſcatch-mouth, with an upſet; ruder but more ſecure than a canon-mouth. 7. The canon-mouth, with a liberty; proper for a horſe with a large tongue and round bars. 8. The maſticadour, or ſlavering-bit, &c. The ſeveral parts of a ſnaffle, or curb-bit, are the mouth-piece, the cheeks and eyes, guard of the cheeks, head of the cheeks, the port, the welts, the campanel or curb and hook, the boſſes, the bolſters and rabbets, the water-chains, the ſide-bolts, bolts and rings, kirbles of the bit or curb, trench, toprol, flap, and jeive.

The importation of bits for bridles is now prohibited.

BIT alſo denotes the iron part of a piercer, augre, and the like inſtruments.

BIT, or BITTS, in ſhip-building, the name of two great timbers, uſually placed abaft the manger, in the ſhip's loof, thro' which the croſs-piece goes: the uſe of it is to belay the cable thereto, while the ſhip is at anchor.

BITCH, the female of the dog-kind. See the article DOG.

BITE, *morſus*, in ſurgery, a ſolution of continuity, made by the teeth of ſome animal, as dog, wolf, &c.

Heiſter obſerves, that the bite of enraged animals, though they were not mad at the time they inflicted them, are uſually attended with very grievous conſequences. If the wound is ſlight, the diſcharge of blood from the part is to be encouraged by preſſing it with the fingers, ſucking it in the mouth, or by the application of cupping glaſſes, or enlarging it with a lancet. It is afterwards to be waſhed with warm ſpirit of wine, and bolſters dipped in the ſame liquor, are to be applied to it, repeating the application every three or

or four hours, till all danger of inflammation is gone off. If the wound be considerably deep, it is always neceſſary to enlarge it with the knife, unleſs it have already a very large opening; and, after applying ſpirit of wine for the firſt days, to prevent the bad ſymptoms, it may be eaſily healed with honey, or ſome digeſtive ointment, and afterwards with a vulnerary balſam, as uſual in other wounds. See the articles HYDROPHOBIA and WOUND.

BITE is alſo uſed, figuratively, for the action of ſharp bodies upon other ſubſtances: thus, a file is ſaid to bite iron, *&c.*

BITONTO, a city of the province of Barri, in the kingdom of Naples, ſituated about eight miles ſouth-weſt of Barri, in 17° 40′ eaſt long. and 41° 20′ north lat.

BITTACLE, on ſhip-board, a ſquare box ſtanding before him that ſteers the ſhip, with the compaſs placed therein, to keep and direct the ſhip in her courſe.

BITTER, *amarus*, an epithet given to all bodies of an oppoſite taſte to ſweetneſs.
Bitters are accounted ſtomachic and cleanſing, and are ſaid to reſiſt putrefaction, correct acidities, and aſſiſt digeſtion; though there are not wanting ſome who will have them to be hurtful to the ſtomach, except in ſo far as their aſtringency contributes to brace the fibres.

BITTER, a ſea-term, ſignifying any turn of the cable about the bits, ſo as that the cable may be let out by little and little. And when a ſhip is ſtopped by a cable, ſhe is ſaid to be brought up by a bitter. Alſo that end of the cable which is wound about the bits is called the bitter end of the cable.

BITTER-APPLE, in botany, a name given to the *colocynthis*. Se COLOCYNTHIS.

BITTER-VETCH, the *orobus* of botaniſts. See the article OROBUS.

BITTERN, in ornithology, the engliſh name of the *ardea ſtellaris* of zoologiſts: it is about the ſize of the common heron. See the article ARDEA.

BITTERN, in the ſalt-works, the brine remaining after the ſalt is concreted: this they ladle off, that the ſalt may be taken out of the pan, and afterwards put in again; when, being farther boiled, it yields more ſalt. See the article SALT.

BITUMEN, in natural hiſtory, an inflammable foſſile ſubſtance, otherwiſe called aſphaltum. See the article ASPHALTUM. Beſides the bitumen judaicum, mentioned under the article ASPHALTUM, there are other kinds, *viz.* a hard ſtinking black kind, found in great plenty about the Dead-ſea; it yields an oil which is an excellent cement, and is ſuppoſed to be the bitumen which we are told ſupplied the place of mortar in building the walls of Babylon. 2. The browniſh black ſtinking bitumen, common in Germany, and even with us, under the name of pitch-ſtone.

BIVALVES, one of the three general claſſes of ſhell-fiſh, comprehending all thoſe, the ſhells of which are compoſed of two pieces, joined together by a hinge.
Of this claſs we have only the ſix following genera: 1. The oyſters. 2. The chamæ. 3. The muſcles. 4. The heart-ſhells. 5. The ſcallops. 6. The razor-ſhells. See the articles OYSTER, CHAMA, MUSCLE, *&c.*

BIVALVE is alſo an appellation given to ſuch pods, or capſules, as conſiſt of two valves incloſing the ſeeds.

BIVENTER, in anatomy, called alſo digaſtric, or two-bellied, a muſcle of the lower jaw, that has its origin in the inciſure under the maſtoide proceſs. The tendon of it often paſſes the ſtylo hyoidæus muſcle, and the membranaceous ring affixed to the os hyoides, in the manner of a pulley, and is then inſerted by a ſynchondroſis into the internal part of the chin. The mouth is opened by means of this trochlea, in a moſt wonderful and elegant manner.

BIXA, in botany, a genus of the *polyandria-monogynia* claſs of plants. The flower is double, the exterior one conſiſting of five oblong, equal, and thick petals, and the interior of five petals alſo, like thoſe of the other, but thinner; the fruit is an ovato-cordated compreſſed capſule, beſet with hairs, formed of two valves, opening at the angles, with only one cell with an interior bivalve membrane; the ſeeds are numerous, turbinated, and truncated at the umbilicus.

BIZARRO, in the italian muſic, denotes a fanciful kind of compoſition, ſometimes faſt, ſlow, ſoft, ſtrong, *&c.* according to the fancy of the compoſer.

BIZOCHI, or BISOCHI, in church hiſtory, certain heretical monks, ſaid to have aſſumed the religious habit contrary to the canons, rejected the ſacraments, and maintained other errors.

BLACK, a well-known colour, ſuppoſed to be owing to the abſence of light; all the rays thereof being imbibed by the black bodies. See COLOUR and LIGHT.

Black bodies are not only warmer, but more inflammable than others, as is prov-ed by various experiments, for which the curious may conſult Boyle, 'S Graveſande, and other philoſophers who have treated of this ſubject.

Black, among dyers, one of the five ſimple and mother colours, uſed in dying. It is made differently, according to the ſeveral qualities of the ſtuffs that are to be dyed. For ſtuffs of a high price, as woollen cloth, an ell and a half or an ell and a quarter wide, broad and narrow ratteens, fine woollen druggets, &c. they muſt uſe a black made of the beſt woad and indigo, inclining to a bluiſh brown. The goodneſs of the compoſition conſiſts in there being not above ſix pounds of indigo ready prepared to each ball of woad, when the latter, being in the tub, begins to caſt its blue flower; and in not being heated for uſe above twice; after which it muſt be boiled with alum, tartar, or aſhes of lees of wine, then maddered with common madder, and laſtly the black muſt be given with gall nuts of Aleppo, copperas, and ſumach. As for more indifferent ſtuffs, ſuch as ſmall ratteens and ſhalloons, as they cannot pay for the expence of maddering, it is ſufficient that they be well boiled with woad, and afterwards blacked with gall and copperas. There is likewiſe the Jeſuit's black, which is made with the ſame ingredients as the good black, but without having firſt dyed the ſtuff blue.

German Black, called by ſome frankfort black, is made with the lees of wine, burnt, waſhed afterwards in water, then ground in mills made for that purpoſe, with ivory, bones, or peach-ſtones, alſo burnt. It comes from Frankfort, Mentz, and Straſbourg, either in lumps or powder, and muſt be choſen moiſt, without having been wetted, of a fine ſhining black, ſoft, friable, light, and with as few ſhining grains as poſſible.

Ivory-Black, otherwiſe called velvet-black, is burnt ivory, which becoming quite black, and being reduced to thin plates, is ground in water, and made into troches, to be uſed by painters, and by jewellers, who ſet precious ſtones, to blacken the ground of the collets, and give the diamonds a teint or foil. In order to be good, it ought to be tender, friable, and thoroughly ground.

Bone-Black is made with the bones of oxen, cows, &c. and is uſed in painting; but is not ſo much eſteemed as ivory-black.

Hart's Black, that which remains in the retort after the ſpirits, volatile ſalt, and oil have been extracted from hart's-horn. It anſwers the purpoſes of painters almoſt as well as ivory-black.

Spaniſh Black is nothing but burnt cork: it is uſed in ſeveral works. It ſhould be light, and have as few grains of ſand mixed with it as poſſible.

Lamp-Black, or *Lam*-Black, the ſooty ſmoke of roſin. There is ſome in powder and ſome in lumps, and is moſtly brought from Sweden and Norway, and pays duty 1l. 10s. $4\frac{80}{100}$d. the hundred weight. It is uſed on various occaſions, particularly for making the printers ink, for which purpoſe it is mixed with oil of walnuts, or linſeed, and turpentine, all boiled together.

Earth-Black a ſort of coals found in the ground, which the painters and limners uſe to paint in freſco, after it has been well ground.

There is alſo a black made with gall-nuts, copperas, or vitriol, ſuch as common ink. And a black made with ſilver and lead, which ſerves to fill up the cavities of engraved things.

Currier's Black, a black made with gall-nuts, ſour beer, and old iron, termed the firſt black. The ſecond black, which gives the gloſs of the leather, is compoſed of gall-nuts, copperas, and gum arabic.

Black, in heraldry, is called ſable. See the article Sable.

Black, in the manege. Horſes entirely black, are accounted dull; but thoſe with a white foot, or white ſpot in their forehead, are not without ſprightlineſs.

Black Bank, in geography, a town of Ireland, about ſeven miles ſouth of Armagh, in 6° 50′ weſt long. and 54° 12′ north latitude.

Black-bird, a ſpecies of *turdus*, called merula. See Turdus and Merula.

Black-book *of the exchequer*. See the article Exchequer.

Black-bourn, a market town of Lancaſhire, about nine miles eaſt of Preſton, in 2° 30′ weſt long. and 53° 40′ north lat.

Black forest, a part of Swabia, divided from Switzerland, by the river Rhine.

Black-lead. See Plumbago.

Black-mail, *a link of mail*, or ſmall pieces of metal or money. In the counties of Northumberland, Cumberland, and Weſtmoreland, it was formerly taken for a certain rent of money, corn, cattle, or other conſideration, paid by poor people near the borders, to perſons of note and

S ſ 2 power,

power, allied with fome mofs-troopers, or known robbers, in order to protect them from pillage.

Black-rod. See the article Rod.

Black-sea, the fame with the Euxine-fea, lying north of Natolia, between 29° and 44° eaft longitude, and 42° and 46° north latitude.

Black-water, the name of two rivers in Ireland, one of which runs through the counties of Cork and Waterford, and falls in Youghal bay; and the other, after watering the county of Armagh, falls into Lough Neagh.

Blacks, in phyfiology. See Negroes.

BLADDER, a thin membranous fubftance, found in feveral parts of an animal, ferving as a receptacle of fome juice, or of fome liquid excrement, as the urinary bladder, gall bladder, *&c.*

Bladder, by way of eminence, or urinary bladder, is a membranaceous hollow body, of the figure of a pear, fituated in the pelvis, and deftined to collect, and at a proper time, to expel the urine. Its fize is fuch, that it will conveniently hold about a pint in adults; but it is capable of diftenfion fo as to hold much more. It is connected, in the human body, in a fingular manner, by the peritonæum to the os pubis, otherwife than in other animals: it is alfo connected with the parts of generation by the urethra; with the navel by the urachus and umbilical arteries; and finally, in men, with the inteftinum rectum; and in women, with the vagina. It is divided into three parts, the body, the neck, and the fundus or bottom. The coats of the bladder are much thinner in the body and the fundus than they are at the neck. Its blood-veffels come from the hypogaftric, the umbilical, and the hæmorrhoidal veffels in men; and in women, from the fpermatics alfo. Its nerves are from the intercoftals, and principally from thofe of the os facrum.

Its ftructure is membranaceous, and confifts of three coats: the firft is called the common membrane; this is continuous with the peritonæum, and furrounds only the bottom of the bladder. The fecond coat is mufcular, and is compofed of feveral fibres, running in various directions, but principally longitudinal and tranfverfe. The third, or inner coat, is nervous, and is covered with a peculiar fluid of a mucous nature, which is fecreted in glands fituated in this coat, and principally in that part which is near the neck of the bladder. The fphincter of the bladder is compofed of a feries of tranfverfe fibres, running crofs-ways under the ftrait fibres of the neck of the bladder, in form of a circle, and ferving to clofe it, to prevent the involuntary difcharge of the urine. The bladder has three foramina; two where the ureters enter in, at which the urine is thrown into the bladder; and one, much larger than thefe, in the neck, for the difcharge of the urine into the urethra.

The difeafes of the bladder are the ftone, inflammations, ulcers, *&c.* See the article Stone, *&c.*

For the other bladders of the body, fee the article Vesicula.

In commerce, bladders pay duty of importation $\frac{95\frac{3}{4}}{100}$ d. the dozen.

Air-Bladder, in phyfiology. See the article Air-bladder.

Bladder-nut. See Staphylæa.

African Bladder-nut. See Royena.

Laurel-leaved Bladder-nut. See the article Dodonæa.

Bladder-puceron. See Puceron.

BLADE, in botany, a name fometimes given to the flower-petals.

Blade, in commerce, a flender piece of metal, defigned for cutting: thus we meet with fword-blade, blade of a chiffel, blade of a faw, *&c.*

BLÆRIA, in botany, a genus of the tetrandria-monogynia clafs of plants, the flower of which is monopetalous and campanulated: the tube is cylindric, of the length of the cup, and pervious: the limb is fmall, and divided into four oval reflex fegments: the fruit is an oblong quadrangular capfule, with four cells, containing feveral roundifh feeds.

BLAIN, among farriers, a diftemper incident to beafts, being a certain bladder growing on the root of the tongue, againft the wind-pipe, which fwells to fuch a pitch, as to ftop the breath. It comes by great chafing and heating of the ftomach, and is perceived by the beaft's gaping and holding out his tongue, and foaming at the mouth; to cure it, caft the beaft, take forth his tongue, and then flitting the bladder, wafh it gently with vinegar and a little falt.

BLAIR *of Athol*, a fmall town of Athol, in Scotland, fituated about twenty-eight miles north of Perth.

BLAMONT, a town of Lorrain, about twenty-

twenty-eight miles south-east of Nancy: east lon. 6° 45′, and north lat. 48° 38′.

BLANC, or BLANK. See BLANK.

BLANCH FERM, according to Blount, is a white farm, where the rent was paid in silver, and not in cattle. The crown-rents were often reserved *in libris albis*, or blanch fermes, in which case the buyer or farmer was holden *dealbare firmam*, *i. e.* his money, worse than the standard, was to be melted down in the exchequer, and reduced to the fitness of standard; or instead of that be paid to the king 12 d. in the pound, by way of addition.

BLANCHING, in a general sense, denotes the art of bleaching or whitening.

BLANCHING of copper is done various ways, so as to make it resemble silver. If it be done for sale, it is felony by 8 and 9 William III. ch. xxvi.

BLANCHING, in coinage, the operation performed on the planchets or pieces of silver, to give them the requisite lustre and brightness. They also blanch pieces of plate, when they would have them continue white, or have only some parts of them burnished.

Blanching, as it is now practised, is performed by heating the pieces on a kind of peel with a wood-fire, in the manner of a reverberatory; so that the flame passes over the peel. The pieces being sufficiently heated and cooled again, are put successively to boil in two pans, which are of copper: in these they put water, common salt, and tartar of montpelier. When they have been well drained of this water in a copper sieve, they throw sand and fresh water over them; and when dry, they are well rubbed with towels.

BLANCHING, among gardeners, an operation whereby certain sallets, roots, &c. are rendered whiter than they would otherwise be.

It is this: after pruning of the tops and roots of the plants to be blanched, they plant them in trenches about ten inches wide, and as many deep, more or less, as is judged necessary; as they grow up, care is taken to cover them with earth, within four or five inches of their tops: this is repeated, from time to time, for five or six weeks, in which time they will be fit for use, and of a whitish colour, where covered by the earth.

BLANCHING also denotes the operation of covering iron plates with a thin coat or crust of tin. See the article LATTEN.

BLANCO, or *Cape*-BLANCO, a promontory of Peru, in south America: west longitude 81°, and south latitude 3° 45′.

BLANCO is also the name of one of the Antille-islands, on the coast of Terra Firma: west longitude 64°, and north latitude 12°.

Cape-BLANCO is also a promontory of Africa, in 18° west lon. and 20° north lat.

BLANDFORD, a market town of Dorsetshire, ten miles north of Pool: west lon. 2° 20′, and north latitude 50° 50′.

BLANES, a port-town of Catalonia, in Spain; east longitude 2° 40′, and north latitude 41° 30′.

BLANK, or BLANC, properly signifies white. See the article WHITE.

BLANK, in commerce, a void or unwritten place which merchants sometimes leave in their day-books or journals. It is also a piece of paper at the bottom of which a person has signed his name, the rest being void. These are commonly intrusted into the hands of arbiters, to be filled up as they shall think proper, to terminate any dispute or law-suit.

BLANK-BAR, in law, the same with common bar. See the article BAR.

BLANK-TICKETS, in lotteries, those drawn without any prize.

BLANK-VERSE, in the modern poetry, that composed of a certain number of syllables, without the assistance of rhyme. See the articles VERSE and RHYME.

Point BLANK, See POINT-BLANK.

BLANKENBURG, a town of dutch Flanders, eight miles north-east of Ostend: east-lon. 3°, north lat. 51° 20′.

BLANKENBURG is also the name of a town in lower Saxony, about forty-five miles south-east of Wolfenbuttle; east lon. 11° 15′, and north latitude 51° 50′.

BLANKET, a coverlet for a bed. A stuff commonly made of white wool, and wrought in a loom like cloth; with this difference, that they are crossed like serges.

When they come from the loom, they are sent to the fuller; and after they have been fulled and well cleaned, they are napped with a fuller's thistle.

There are also blankets made with the hair of several animals, as that of goats, dogs, and others.

French blankets, called parish mantles, pay duty 12 s. 11 d. each, if coloured and the manufacture of France; otherwise only 5 s. 1 $\frac{60}{100}$d. If uncoloured, and the manufacture of France, they pay each 9 s. 8 $\frac{25}{100}$d. otherwise only 3 s. 10 $\frac{20}{100}$d. Blankets imported into France, pay a duty

duty of importation according to their finenefs; namely, thofe of fine wool, fix livres *per* piece; thofe of coarfe and middling wool, three livres. None can be imported but by the way of Calais and St. Vallery.

BLANQUILLE, in commerce, a fmall filver coin current in the kingdom of Morocco, and all that part of the coaft of Barbary: it is worth about three half-pence of our money.

BLARE, in commerce, a fmall copper-coin of Bern, nearly of the fame value with the ratz.

BLAREGNIES, a town of the auftrian Netherlands, about feven miles fouth of Mons; eaft longitude 3° 55′, and north latitude 50° 30′.

BLASIA, in botany, a genus of plants belonging to the *cryptogamia algarum* clafs. The male flower is monophyllous, ovated at the bafe, of a cylindric figure at the middle, and truncated at the apex. The female flower is fcarce vifible. The pericarpium contains a few roundifh feeds.

BLASPHEMY, an indignity or injury offered to the Almighty, by denying what is his due, and of right belonging to him; or by attributing to the creature that which is due only to the creator.

The primitive church diftinguifhed blafphemy into three forts. 1. The blafpheming of apoftates, whom the heathen profecutors obliged not only to deny, but to curfe Chrift. Thefe blafphemers were punifhed with the higheft degree of ecclefiaftical cenfure. 2. The blafphemy of heretics, and other prophane chriftians. In this fenfe they included not only thofe who maintained impious doctrines, but thofe who uttered prophane and blafphemous words, derogatory to the majefty and honour of God. The fame punifhment that was inflicted upon heretics and facrilegious perfons, was confequently the lot of this fort of blafphemers. 3. The blafphemy againft the Holy Ghoft, concerning which the opinions of the antients varied. Some apply it to the fin of lapfing into idolatry and apoftacy, in denying Chrift in time of perfecution. Others made it confift in denying Chrift to be God: others, in denying the divinity of the Holy Ghoft: and others place it in a perverfe and malicious afcribing the operations of the holy fpirit, to the power of the devil; and that againft exprefs knowledge and conviction of confcience.

Blafphemy, among the Jews, was punifhed by ftoning the offender to death. With us, it is punifhable at common law, by fine and pillory. And by a ftatute of William III. if any perfon fhall, by writing or fpeaking, deny any of the perfons in the trinity, he fhall be incapable of any office; and for the fecond offence, be difabled to fue in any actions, to be an executor, &c.

BLAST, in a general fenfe, denotes any violent explofion of air, whether occafioned by gun-powder, or by the action of a pair of bellows.

BLASTS, among miners, the fame with damps. See the article DAMPS.

BLAST, or BLIGHT, in hufbandry. See the article BLIGHT.

BLASTING, a term ufed by miners for the tearing up rocks, which lie in their way, by the force of gun-powder.

In order to do this, a long hole is made in the rock, which being charged with gun-powder, they fill it up; leaving only a touch-hole, with a match to fire the charge.

BLATTA, the MILL-BEETLE, in the hiftory of infects, is a genus of infects of the feries of the tetraptera, or thofe which have four wings, and the order of the coleoptera: the antennæ are fetaceous; there are two fhort horns above the tail; the exterior wings are membranaceous; and the infect is of the fize of the common cricket; its colour is a deep ferrugineous brown, approaching to black.

BLAVET, or PORT-LEWIS, a port-town of Britanny, in France, fituated at the mouth of the river Blavet; weft longitude 3°, and north latitude 47° 40′.

BLAWBUREN, a town of Swabia, in Germany, about eleven miles eaft of Ulm; eaft longitude 9° 45′, and north latitude 48° 24′.

BLAYE, a fortrefs of Guienne, in France, fituated on the river Garonne, about twenty-one miles north of Bourdeaux; weft long. 45′, and north lat. 45° 7′. The intention of it is, to hinder any fhip from going to Bourdeaux without permiffion.

BLAZE, a white fpot in a horfe's face.

BLAZING-STAR, the fame with comet. See the article COMET.

BLAZONING, or BLAZONRY, in heraldry, the art of decyphering the arms of noble families.

The word originally fignified the blowing or winding of a horn, and was introduced into heraldry as a term denoting the defcription of things borne in arms, with

with their proper significations and intendments, from an antient custom the heralds, who were judges, had of winding an horn at justs and tournaments, when they explained and recorded the atchievements of knights.

In blazoning a coat of arms, you must always begin with the field, and next proceed to the charge; and if there be many things borne in the field, you must first name that which is immediately lying upon the field. Your expressions must be very short and expressive, without any expletives, needless repetitions, or particles. Such terms for the colours must be used, as are agreeable to the station and quality of the bearer. All persons beneath the degree of a noble, must have their coats blazoned by colours and metals; noblemen by precious stones, and kings and princes by planets.

BLEA, in the anatomy of plants, the inner rind or bark. It may be considered as an assemblage of strait fibres ranged vertically and parallel to one another.

While the blea remains any thing soft, and retains somewhat of the nature of bark, it may maintain a feeble vegetation; but when it is grown absolutely hard and woody, it can no longer contribute thereto.

BLEACHING, the art or method of whitening linens, stuffs, silks, hair, *&c.*

Bleaching *of silk.* The silk being raw, is put into a bag of fine linen, and thrown into a vessel of boiling river-water, in which had been dissolved good Genoa or Toulon soap. After boiling for some hours, it is taken out to beat, and then is washed in cold water, wrung slightly, and put a second time into the boiling vessel, filled with cold water, mixed with soap and a little indigo, which gives it a bluish cast. When it is taken out of this second water, they wring it hard, untwist it, and separate the threads; then they suspend it in the air in a kind of stove, where they burn sulphur, the vapour of which mineral gives the last degree of whiteness to the silk.

Bleaching *of woollen stuffs* is performed three different ways. 1. With water and soap. 2. With the vapour of sulphur. And, 3. With chalk, indigo, and the vapour of sulphur.

Bleaching *of coarse linens.* After they are taken from the loom, they are laid in wooden frames full of cold water, where they are beaten with wooden hammers, and purged from the filth; then they are spread upon the ground to receive the dew for eight days; after which they are put into wooden tubs, with hot lye poured over them. Having been thus lixiviated, they are again purged in a mill, and the former process repeated, till they have acquired their just degree of whiteness.

Bleaching *fine linens.* After they are taken from the loom, they are put to soak in clear water, and when they have been well cleansed, are thrown into a bucking-tub filled with cold lye, made of wood-ashes and water. When they are taken out of the lye, they are washed in fair water, spread in a meadow, and frequently watered from little canals, by means of scoops or hollow shovels. After lying a certain time on the ground, they are passed through a fresh lye poured on hot, and made differently, according to the condition of the linens. Being taken out of this second lye, and every thing repeated as before, they are passed through a soft lye, rubbed with black soap, which finishes the whitening of the salvages; and the soap being washed off, they are put to soak in cow's milk without the cream. This perfects their bleaching, gives them the proper softness, and makes them cast a little nap. Being taken out of the milk, they are washed in water for the last time. After all this process, the linen gets its first blue by passing thro' a water, in which a little starch, smalt, and dutch lapis have been steeped. In the last place, the proper stiffness and lustre is given with starch, smalt, and other gums, the quantity and quality of which may be adjusted according to the occasion.

Bleaching *of hair* is done by washing it as linen, in a suitable lixivious water, and afterwards spreading it upon the grass. Hair bordering upon the yellow, may likewise be bleached of a white silver colour, with bismuth.

BLEAK, the english name of the fish called by the generality of authors alburnus and albula, which Artedi makes a species of cyprinus, with twenty four rays in the pinna ani. See Cyprinus.

BLECHINGLY, a borough-town of Surry, about twenty miles south of London: west longitude 20′, and north latitude 51° 20′.

BLECHUM, in botany, a genus of plants of the class of the cryptogamia filices, the

fructi-

fructifications are disposed in parallel lines on the sides of the leaves.

BLEEDING, or PHLEBOTOMY, in surgery. See the article PHLEBOTOMY.

Bleeding is said to be highly necessary in the phrenitis, ophthalmia, quinzy, rheumatism, cough, consumption, hectic fits, and, in general, in all inflammatory cases. Some even make no scruple of bleeding a consumptive patient every other day for several weeks together.

BLEEDING at the nose, a particular kind of hæmorrhage. See HÆMORRHAGE.

BLEEDING is also used for the drawing out the sap of plants, otherwise called tapping. See the article TAPPING.

BLEKING, the most south-easterly province of Sweden, having the Baltic on the south, Smaland on the north, and the province of Schonen on the west.

BLEMISH, a term in hunting, when the hounds or beagles finding where the chase has been, make a proffer to enter, but return.

BLEMYES, or BLEMMYES, a fabulous people of Ethiopia, said to have had no heads; their eyes, mouth, *&c.* being situated in their breasts.

BLEND, or BLENDE, a mineral substance resembling lead-ore, but containing very little of that metal.

BLEND-WATER, called also morehough, a distemper incident to black cattle, comes either from the blood, from the yellows, or from the change of ground.

In order to cure it, take bole armoniac, and as much charcoal dust as will fill an egg-shell, a good quantity of the inner bark of an oak, dried and pounded together to a powder, and give it to the beast in a quart of new milk and a pint of earning.

BLENHEIM, a village of Swabia in Germany, situated on the west side of the Danube, three miles north-east of Hockstet, and twenty-seven miles north-east of Ulm; east longitude 10° 25′, and north latitude 48° 40′.

BLENNIUS, in ichthyology, a genus of acanthopterygious fishes, the characters of which are, that there are six bones in the branchiostege membrane; that the fore part of the head is very slanting; and that the belly fins have only two bones.

To this genus belong the blennius, properly so called, the gattorugine, alauda, galerita, gunellus, galea, mustela, and pentadactylus.

BLENNUS is particularly used for that species of blennius, which has a furrow between the eyes, with a beautiful spot in its back fin; from whence it has got the name of the butter-fly fish. See plate XXVIII. fig. 6.

BLEYME, an inflammation arising from bruised blood between the horse's sole and the bone of the foot, towards the heel: of these there are three sorts, the first being bred in spoiled wrinkled feet, with narrow heels, are usually seated in the inward or weakest quarter. In this case the hoof must be pared, and the matter let out; then let oil *de merveille* be poured in, and the hoof be charged with a remolade of soot and turpentine.

The second sort, besides the usual symptoms of the first, infects the gristle, and must be extirpated, as in the cure of a quitter bone, giving the horse, every day, moistened bran, with two ounces of liver of antimony, to divert the course of the humours, and purify the blood.

The third sort of bleymes, is occasioned by small stones and gravel between the shoe and the sole. In this case the foot must be pared, and the matter, if any, let out: if there be no matter, then the bruised sole must be taken out; but if there be matter, the sore must be dressed like the prick of a nail.

BLIGHT, in husbandry, a disease incident to plants, which affects them variously, the whole plant sometimes perishing by it, and sometimes only the leaves and blossoms, which will be scorched and shrivelled up, the rest remaining green and flourishing.

Some have supposed that blights are usually produced by an easterly wind, which brings vast quantities of insects eggs along with it from some distant place, that being lodged upon the surface of the leaves and flowers of fruit trees, cause them to shrivel up and perish.

To cure this distemper they advise the burning of wet litter on the windward side of the plants, that the smoke thereof may be carried to them by the wind, which they suppose will stifle and destroy the insects, and thereby cure the distemper.

Others direct the use of tobacco-dust, or to wash the trees with water wherein tobacco stalks have been infused for twelve hours; which they say will destroy the insects, and recover the plants.

Pepper dust scattered over the blossoms of fruit trees, *&c.* has been recommended as very

Fig. 1. BIDENS.



Fig. 2. BIGNONIA.

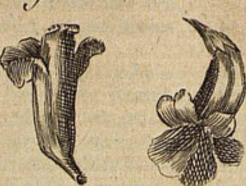


Fig. 3. BILLETS.

Fig. 4. BIRTH-WORT, *ARISTOLOCHIA*.

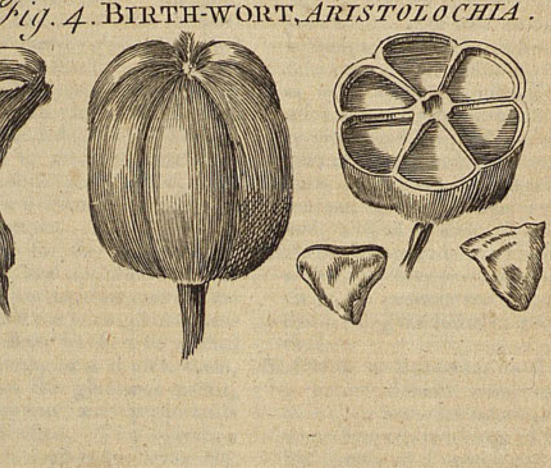
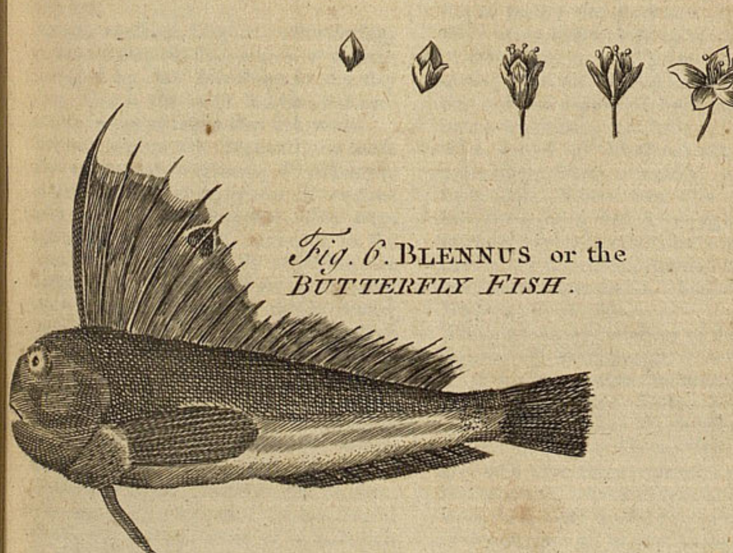


Fig. 5. BISTORT.

Fig. 6. BLENNUS or the *BUTTERFLY FISH*.



J. Jefferys sculp.

very useful in this case; and there are some that advise the pulling off the leaves that are distempered.

The true causes of blights, seem to be a continued dry easterly wind for several days together, without the intervention of showers, or any morning dew, by which the perspiration in the tender blossom is stopped; and if it so happens, that there is a long continuance of the same weather, it equally affects the tender leaves, whereby their colour is changed, and they wither and decay: for the perspiring matter is hereby thickened, and rendered glutinous, closely adhering to the surfaces of the leaves, and becoming proper nutriment to those small insects, which are not the first cause of blights, though it must be allowed, that when they meet with such proper food, they multiply, and are instrumental in promoting the distemper.

The best remedy for this distemper, is gently to wash, and sprinkle over the tree, &c. from time to time, with common water; and if the young shoots seem to be much infected, let them be washed with a woolen cloth, so as to clear them, if possible, from this glutinous matter, that their respiration and perspiration may not be obstructed. This operation ought to be performed early in the day, that the moisture may be exhaled before the cold of the night comes on: nor should it be done when the sun shines very hot.

Another cause of blights in the spring, is sharp hoary frosts, which are often succeeded by hot sun-shine in the day time: this is the most sudden and certain destroyer of fruits that is known.

But that blights are frequently no more than an inward weakness, or distemper in trees, will evidently appear, if we consider how often it happens, that trees against the same wall, exposed to the same aspect, and equally enjoying the advantage of the sun and air, with every other circumstance which might render them equally healthy, yet very often are observed to differ greatly in their strength and vigour; and as often do we observe the weak trees to be continually blighted, when the vigorous ones, in the same situation, shall escape very well; which must therefore, in a great measure, be ascribed to their healthy constitution. This weakness may proceed from several causes, either from want of a sufficient supply of nourishment, or from some ill quality in the soil, from some bad quality in the stock, or inbred distemper of the bud or cyon, which it has imbibed from its mother tree, or it may proceed from some mismanagement in the pruning, &c.

BLIND, something that wants sight. See the article BLINDNESS.

Pore-BLIND, or *pur*-BLIND, is said of a person who is very short sighted.

Moon-BLIND, denotes horses that lose their sight at certain times of the moon; to cure which, take half an ounce of lapis calaminaris; heat it red hot, and quench it in a quarter of a pint of plantain-water or white-wine: to this add half a dram of aloes, and a spoonful of camphor, in powder; and letting them dissolve, drop part of it into the horse's eye.

BLIND is also used, figuratively, for things without apertures: thus we say, a blind wall, a blind alembic, &c.

BLIND, among traders, a kind of false light which they have in their warehouses and shops, to prevent too great a light from diminishing the lustre of their linens and stuffs.

BLINDS, or BLINDES, in the art of war, a sort of defence commonly made of oziers, or branches interwoven, and laid across between two rows of stakes, about the height of a man, and four or five feet asunder, used particularly at the heads of trenches, when they are extended in front towards the glacis; serving to shelter the workmen, and prevent their being overlooked by the enemy.

BLINDNESS, a total privation of sight, arising from an obstruction of the functions of the organs of sight, or from an intire deprivation of them.

The causes of blindness are various, proceeding from cataracts, gutta serena's, &c. There are also periodical blindness, as a defect of sight in some towards night, in others only in the day; the former of which is termed nyctalopia, the latter hemeralopia. See the articles NYCTALOPIA, &c.

There are many instances of the amazing sagacity of blind people. We are told of a sculptor, who becoming blind at twenty years of age, made a perfect marble statute of Cosmo II. de Medicis, and another of clay, of Urban VIII. We are also told that there was a blind sculptor in Denmark, who distinguished perfectly well, by a mere touch, not only all kinds of woods, but all sorts of colours.

It is said, that in several parts of Persia, there

there are found vaſt numbers of blind people of all ages, ſexes, and conditions, by reaſon of a ſpecies of little flies, which prick the eyes and lips, and enter the noſtrils, carrying certain blindneſs with them, when they light on the eyes.

BLINDNESS, in farriery. When a horſe becomes blind, it may be thus diſcerned: his walk or ſtep is always uncertain and unequal, ſo that he does not ſet down his feet boldly, when led in one's hand: but if the ſame horſe be mounted by an expert horſeman, and that he be of himſelf a beaſt of metal, then the fear of the ſpurs will make him go reſolutely and freely; ſo that his blindneſs can hardly be perceived.

Another mark by which a horſe may be known to have loſt his ſight is, that when he hears any body enter the ſtable, he will prick up his ears, and move them backwards and forwards. The reaſon is, that a vigorous horſe, having loſt his ſight, miſtruſts every thing, and is continually in alarm, at the leaſt noiſe he hears.

BLISTER, in medicine, a thin bladder, containing a watery humour, whether occaſioned by burns, and the like accidents, or by veſicatories laid on different parts of the body for that purpoſe. This word is alſo uſed improperly for the medicine by whoſe operation the veſicle or bliſter is raiſed, which is more properly called a veſicatory or bliſtering plaſter. See the articles BURN, EPISPASTIC, and VESICATORY.

Cantharides, or ſpaniſh flies, applied in the form of a plaſter, are chiefly uſed with this intention. See CANTHARIS.

BLITE, *blitum*, in botany, a genus of the *monandria-digynia* claſs of plants. It has no flower petals: the fruit is a berry-like capſule, of an oval figure, and ſomewhat compreſſed; the ſeed is ſingle, of a globular figure, compreſſed, and nearly of the ſize of the capſule.

Blite, on account of its cooling and emollient qualities, is recommended in dyſenteries and ſpitting of blood.

BLITH, a market-town in Nottinghamſhire, about eighteen miles north-weſt of Newark: weſt longitude 1°, and north latitude 53° 25′.

BLITUM, *blite*, in botany. See BLITE.

BLOATING, among phyſicians, the ſame with emphyſema. See EMPHYSEMA.

BLOCK, a large maſs of wood, ſerving to work or cut things on.

BLOCKS, on ſhip-board, is the uſual name for what we call pulleys at land. They are thick pieces of wood, ſome with three, four, or five ſhivers in them, through which all the running ropes run. Blocks, whether ſingle or double, are diſtinguiſhed and called by the names of the ropes they carry, and the uſes they ſerve for. Double blocks are uſed when there is occaſion for much ſtrength, becauſe they will purchaſe with more eaſe than ſingle blocks, though much ſlower.

Block and block is a phraſe ſignifying that two blocks meet, in haling any tackle, or halliard, having ſuch blocks belonging to them.

Fiſh block is hung in a notch at the end of the davit. It ſerves to hale up the flooks of the anchor at the ſhip's prow.

Snatch block is a great block with a ſhiver in it, and a notch cut thro' one of its cheeks, for the more ready receiving of any rope; as by this notch the middle part of a rope may be reeved into the block, without paſſing it endwiſe. It is commonly faſtened with a ſtrap about the main-maſt, cloſe to the upper deck, and is chiefly uſed for the fall of the winding tackle, which is reeved into this block, and then brought to the capſtan.

BLOCK, among bowlers, denotes the ſmall bowl uſed as a mark.

BLOCK, in falconry, the perch upon which they place the hawk. It ought to be covered with cloth.

BLOCK *of marble*, or ſtone, a maſs juſt as taken out of the quarry.

BLOCK-*Battery*, in the military art, denotes a wooden battery on four wheels, moveable from place to place, whereby to fire *en barbe*, or over the parapet; ſometimes alſo uſed in galleries and caſements, where room is wanted.

BLOCK *Houſe*, a kind of wooden fort or battery, either mounted on rollers, or on a veſſel, and ſerving either on the water, or in counterſcarps and counter-approaches. The name is ſometimes alſo given to a brick or ſtone fort built on a bridge, or the brink of a river, ſerving not only for its defence, but for the command of the river both above and below; ſuch was that noted block-houſe antiently on the bridge of Dreſden, ſince demoliſhed on enlarging the bridge.

BLOCKADE, in the art of war, the blocking up a place, by poſting troops at all the avenues leading to it, to keep ſupplies of men and proviſions from getting

into it; and by these means proposing to starve it out, without making any regular attacks.

To raise a blockade, is to force the troops that keep the place blocked up, from their posts.

BLOIS, a beautiful city of Orleanois, about thirty miles south-west of Orleans; situated on the north shore of the river Loire, in one of the finest countries in France: east long. 1° 20′, and north lat 47° 35′.

BLOMARY, or BLOOMARY, in metallurgy, the first forge through which iron passes, after it is melted out of the ore.

BLONIC, a town of Poland, about twenty miles west of Warsaw: east longitude 20° 30′, and north latitude 52°.

BLOOD, *sanguis*, a red liquor circulating through the arteries, veins, and other vessels of animal bodies; and serving for the support of life, and nourishment of all their parts.

Origin of the BLOOD. The blood is the great source from which all the other liquors of the body are derived. It is formed from chyle by various and successive degrees. A few hours after meals, the chyle is found conveyed into the blood, though not assimilated. Hence, when after a liberal meal blood is taken from the vein, besides the serum and the red part, there is a white, sweet, and chylous part found fluctuating in the blood. In a few hours the chyle, conveyed with the blood through the vessels, is separated from the blood by the fabric of the breasts, and affords milk, which is of a different nature both from blood and chyle; for in milk there begins to be formed that tendency to concretion which is already present in the serum of the blood, for it yields cheese. But this tendency to concretion is never found in the chyle. Hence we may artificially imitate the preparation of chyle in emulsions, but never the nature of milk.

When a sound woman for twelve hours totally abstains from meat and drink, her milk begins to be saline and yellowish. If she abstains still longer, nothing is found in the blood taken from her veins, but what (like the white of an egg) is by means of the fire concreted, which never happens in the chyle. See the articles CHYLE and CHYLIFICATION.

Hence we may conclude that the bodies of sound persons are the formers and producers of their own blood, in the same manner as any plant, by its peculiar fabric, prepares its sap from the juices of the fertile earth and the genial influences of the circumambient air.

But in the human body the formation of blood depends principally upon the efficacy of the circulation, by which the vessels act upon their contained fluids. Hence in the most robust persons the blood is reddest, or rather almost black, in consequence of its saturated red colour, and is concreted almost the very moment it is left in a state of rest. And in acute diseases, when the circulation is increased, all the parts are intensely red, and the serum of the blood is converted into a scissile mass. But in weak persons in whom the efficacy of the circulation is far less, all the parts are pale and languid, whilst the blood is thin and hardly capable of concretion. But when in such persons, with due exercise and proper remedies, the circulation is augmented, the red colour and due cohesion of the blood return.

Analysis of the BLOOD. The most obvious composition of blood is of a thin watry liquor, called serum; and a thick reddish lump, called crassamentum. This last, viewed by the microscope, is seen to consist of red globules, of a certain determined magnitude, the same in different parts of the same animal, and even in different animals of whatever size; being equally big in an ox, a sheep, or rabit: and the plano-oval particles in the blood of fowls and fishes, corresponding to the globules of terrestrial animals, are the same in the greatest whales, as in an eel or a frog; the same in an eagle as in a sparrow. See the article SERUM.

These are easily perceived by any body; but the sharp-sighted Lewenhoek went farther. He discovered those globules to be made up of lesser ones, which were likewise composed of others still smaller; and so on to the fifth, sixth, *&c.* orders. Hence it appears, how little reason certain physiologists had to suppose these globules made up of viscid bullulæ, inclosing little spherules of air.

As to the fibres, *ῖνες*, which many have described as essential parts of the blood, there are no vestiges of them to be found, at least in its natural state.

The antients did not pretend to determine the proportions of the constituent parts of the blood; but, from the experiments of modern chemists, they have been found to be nearly as in the following table, where the blood is reckoned unity, and supposed to consist of 4873 grains.

 N°.

	No. of grains.	proportion to the whole.
Water — —	4068 — —	$\frac{5}{6}$
Oil — —	333 — —	$\frac{1}{15}$
Salt — — —	190 — —	$\frac{1}{25}$
Earth — —	65 — —	$\frac{1}{75}$
Air — — —	171 — —	$\frac{1}{28}$

Thus we fee how greatly the watery or phlegmatic part of the blood exceeds the other principles. However, it is proper to obferve, that there is a remarkable difference between the blood as it circulates in the veffels of animals, and when expofed to the cold air: we know that all bodies whatfoever are condenfed by cold, and expanded again by heat; fo that we may fafely affirm the cold blood, or as it is commonly examined, to be fpecifically heavier, than that circulating in veffels of living animals.

Circulation of the BLOOD. See the article CIRCULATION *of the Blood.*

Velocity or *momentum of the circulating* BLOOD. See *Force of the* HEART.

Heat of the BLOOD. See the article HEAT.

Quantity of the BLOOD. Authors are not agreed in regard to the quantity of blood contained in the human body; fome making it only 10 pounds, whilft others make it to be 20, 60, or even 100 pounds: but then thefe laft comprehend the juices of the lymphatic veffels under the term blood. As to the quantity of current blood in a horfe, the ingenious Dr. Hales found it to be, at a low computation, 1105 cubic inches, or 42.2 pounds.

BLOOD, in medicine, claims the moft attentive regard of phyficians. An excefs of its quantity produces a plethora, lethargy, &c. Fevers are the confequence of its too rapid motion, and obftructions of its vifcidity and languor.

The too great heat and vifcidity of the blood, are its prevailing diforders in a country like this, where people live high, and drink hot inflammable liquors. Befides temperance, and ufing water as beverage, the milder preparations of mercury, contribute greatly to cool and dilute the blood: fuch are ethiops and cinnabar, if given in moderate dofes, fo as not to affect the ftomach, or excite a falivation.

Thicknefs of the blood is another diftemperature, proceeding from a plethora, and diminution of its motion; from whence arife obftructions, ftagnations, hypochondriac and hyfteric affections, &c. The incubus, or night-mare, is alfo owing to the fame caufe.

Spitting of BLOOD is cured by copious bleeding every third day, to the fourth time. Gentle purging is likewife recommended; and, for appeafing the commotion of the blood, fpirit of vitriol, but more efpecially the tincture of rofes made therewith. A milk diet is alfo preferable to any other; and after the cure is completed, it will be neceffary, by way of prevention, to bleed once in fix months for feveral years together.

For the ftanching of BLOOD, fee STYPTIC.

Tranfufion of BLOOD. See the article TRANSFUSION.

BLOOD, in farriery, a diftemper in the backs of cattle, which will make a beaft go as if he drew his head afide, or after him. In order to cure it, you fhould flit the length of two points under his tail, and fo let him bleed well; but if he bleeds too much, knit his tail next the body, and then bind falt and nettles bruifed unto it.

Ebullition of the BLOOD, a difeafe in horfes which proceeds from want of exercife, and gives rife to outward fwellings, frequently miftaken for the farcin.

BLOOD *running itch* happens to a horfe by the blood's being over heated by hard riding or other labour. As the blood gets between the fkin and the flefh, it makes a horfe rub and bite himfelf, and if neglected, will turn to a grievous mange.

BLOOD *of Chrift*, the name of a military order inftituted at Mantua in 1608. The number of knights was reftricted to twenty, befides the grand mafter. Their device was *Domine probafti me*, or, *nihil*, *hoc*, *trifte*, *recepto*.

BLOOD *of Chrift* is alfo the name of a congregation of nuns at Paris.

Dragon's BLOOD. See the article DRAGON.

Salamander's BLOOD. See SALAMANDER.

BLOOD-HOUND. See the article HOUND.

BLOOD-LETTING. See BLEEDING.

BLOOD-SHOTTEN. See OPHTHALMIA.

BLOOD-SPAVIN. See the article SPAVIN.

BLOOD-SNAKE. See HÆMORRHUS.

BLOOD-STONE. See HÆMATITES.

BLOOD-WITE, a mulct or fine for fhedding of blood.

BLOOD-WORT, in botany. See the article SANGUINARIA.

BLOODY, fomething belonging to, or abounding with blood.

BLOODY-FLUX. See the articles FLUX and DYSENTERY.

BLOODY-HAND, is when a trefpaffer is apprehended

prehended in a foreſt with his hands or other parts bloody; which is a circumſtance of his having killed the deer, tho' he be not found chaſing or hunting them.

Bloody-heel-cock. See Heeler.

Bloody-Rain. See the article Rain.

Bloody Urine. See the article Urine.

BLOOM, a maſs of iron after having undergone the firſt hammering, called blomary. See the article Blomary.

BLOSSOM denotes the flowers of plants, but more eſpecially of fruit-trees. See the articles Botany and Flower.

Blossom, or peach-coloured, in the manege, a term applied to a horſe that has his hair white, but intermixed all over with ſorrel and bay hairs. Such horſes are ſo inſenſible, and hard both in the mouth and the flanks, that they are ſcarce valued; beſides, they are apt to turn blind.

BLOTTING-book, the ſame with waſte-book. See the article Book.

Blotting-paper. See Paper.

BLOW, in law, any kind of ſtroke, whether given with the hand or a weapon. See the article Battery.

Blow, in medicine. See the articles Wound and Contusion.

Blow-pipe, or Blowing-Pipe, a hollow tube, uſed by ſeveral artificers; as enamellers, glaſs-makers, &c.

BLOWING, in a general ſenſe, denotes an agitation of the air, whether performed with a pair of bellows, the mouth, a tube, or the like.

Blowing *of glaſs*, one of the methods of forming the divers kinds of works, in the glaſs manufacture.

It is performed by dipping the point of an iron blowing-pipe in the melted glaſs, and blowing through it with the mouth, according to the circumſtances of the glaſs to be blown.

Blowing *of tin* denotes the melting its ore, after being firſt burnt to deſtroy the mundic.

Blowing, among gardeners, the ſame with the bloſſoming of plants, or putting forth their flower-leaves.

BLUBBER denotes the fat of whales and other large ſea animals, whereof is made train oil. See the article Oil.

Sea-Blubber, a name uſed for the *urtica marina*. See the article Urtica.

BLUE, otherwiſe called Azure, is one of the primitive colours of the rays of light.

Painters Blue is made different, according to the different kinds of painting.

In limning, freſco, and miniature, they uſe indifferently ultramarine, blue aſhes, and ſmalt: theſe are their natural blues, excepting the laſt, which is partly natural, and partly artificial.

In oil and miniature, they alſo uſe indigo prepared; as alſo a fictitious ultramarine. See the articles Ultramarine and Indigo.

Enamellers and painters upon glaſs have alſo blues proper to themſelves, each preparing them after their own manner.

Turnſole Blue is uſed in painting on wood, and is made of the ſeed of that plant: the way of preparing it is, to boil four ounces of turnſole in a pint and half of water, in which lime has been ſlacked.

Flanders Blue is a colour bordering on green, and ſeldom uſed but in landſkips.

To write on paper or parchment with Blue *ink*. Grind blue with honey, then temper it with glair of eggs, or gum made of iſing-glaſs.

Blueing *of metals* is performed by heating them in the fire, 'till they aſſume a blue colour; particularly practiſed by gilders, who blue their metals before they apply the gold and ſilver leaf.

To dye ſkins Blue. Boil elder berries or dwarf elder, then ſmear and waſh the ſkins therewith, and wring them out; then boil the berries, as before, in a ſolution of alum-water, and wet the ſkins in the ſame manner once or twice; dry them, and they will be very blue.

Dyers Blue is one of their ſimple or mother colours, uſed in the compoſition of others. It is made of woad, indigo, and a paſtel brought from Normandy. Some dyers heighten their blue, by adding braſil and other woods.

A Blue *for painting or ſtaining of glaſs*. Take fine white ſand twelve ounces, zaffer and minium of each three ounces; reduce them to a fine powder in a bell-metal mortar, then putting the powder into a very ſtrong crucible, cover it and lute it well, and, being dry, calcine it over a quick fire for an hour; take out the matter and pound it, then to 16 ounces of this powder, add 14 of nitre powder; mix them well together, and put them into the crucible again; cover and lute it, and calcine for two hours on a very ſtrong fire.

Pruſſian Blue. This blue is next to ultramarine for beauty, if it be uſed in oil: this colour does not grind well in water. See the article Prussian Blue.

Blue

Blue Bice is a colour of good brightneſs, next to pruſſian blue, and alſo a colour of a body, and will flow pretty well in the pencil.

Saunders Blue is alſo of very good uſe, and may ſerve as a ſhade to ultramarine or the blue bice, where the ſhades are not required to be very deep, and is of itſelf a pleaſant blue, to be laid between the light and ſhades of ſuch a flower as is of a mazarine blue.

A fine Blue *from Mr. Boyle.* Take the blue leaves of rue, and beat them a little in a ſtone mortar with a wooden peſtle, then put them in water, juice and all, for fourteen days or more, waſhing them every day 'till they are rotten; and at laſt beat them and the water together, 'till they become a pulp, and let them dry in the ſun. This is a fine blue for ſhading.

Indigo-Blue. This makes the ſtrongeſt ſhade for blues of any other, and is of a ſoft warm colour, when it has been well ground, and waſhed with gum-water, by means of a ſtone and a muller.

Lacmus, or Litmus Blue. This is a beautiful blue, and will run in a pen as free as ink. It is made of Lacmus, and prepared thus: Take an ounce of lacmus, and boil it in a pint of ſmall beer wort, 'till the colour is as ſtrong as you would have it; then pour off the liquor into a gallipot, and let it cool for uſe. This affords a beautiful colour, has extraordinary effects, and is a holding colour; if it be touched with aqua fortis, it immediately changes to a fine crimſon, little inferior to carmine.

Blue Japan. Take gum-water, what quantity you pleaſe, and white lead a ſufficient quantity, grind them well upon a porphyry; then take iſing-glaſs ſize, what quantity you pleaſe, of the fineſt and beſt ſmalt a ſufficient quantity, mix them well; to which add, of your white lead, before ground, ſo much as may give it a ſufficient body; mix all theſe together to the conſiſtence of a paint.

Blue Bottle, in botany. See Cyanus.

Blue-Cap, in ichthyology, a ſpecies of ſalmon, with a broad blue ſpot on its head.

BLUEING. See the article Blue.

BLUE-MANTLE, in heraldry, the title of a pourſuivant at arms.

BLUENESS, the quality which denominates a body blue; or it is ſuch a ſize and texture of the parts, which compoſe the ſurface of a body, as diſpoſe them to reflect the blue, or azure rays of light, and thoſe only, to the eye.

As to the blueneſs of the ſkies, Sir Iſaac Newton obſerves, that all the vapours, when they begin to condenſe and coaleſce into natural particles, become firſt of ſuch a bigneſs, as to reflect the azure rays, before they can conſtitute clouds, or any other colour.

BLUFF-HEAD, among ſailors. A ſhip is ſaid to be bluff-headed, that has an upright ſtern.

BLUNDERBUSS, a ſhort fire-arm with a wide bore, capable of holding a number of bullets at once.

BLUSHING, a ſuffuſion, or redneſs of the cheeks, excited by a ſenſe of ſhame, on account of a conſciouſneſs of ſome failing or imperfection.

Bluſhing is ſuppoſed to be produced from a kind of conſent, or ſympathy between the ſeveral parts of the body, occaſioned by the ſame nerve being extended to them all. Thus the fifth pair of nerves, being branched from the brain to the eye, ear, muſcles of the lips, cheeks and palate, tongue and noſe, a thing, ſeen or heard, that is ſhameful, affects the cheeks with bluſhes, driving the blood into their minute veſſels, at the ſame time that it affects the eye and ear. Mr. Derham further obſerves, upon this ſubject, that a ſavory thing, ſeen or ſmelt, affects the glands and parts of the mouth: if a thing heard be pleaſing, it affects the muſcles of the face with laughter; if melancholy, it exerts itſelf on the glands of the eyes, and occaſions weeping, *&c.* To the ſame cauſe is, by others, the pleaſure of kiſſing aſcribed.

B MI, in muſic, the third note in the modern ſcale. See the article Scale.

B MOLLARRE, or Molle, one of the notes of the ſcale of muſic, uſually called ſoft or flat, in oppoſition to b quadro. See the article B Quadro.

BOAR, a male ſwine that has not been gelt, kept chiefly for propagation. See the article Hog.

A boar ought to be handſome, to have a truſs body, a thick head, long ſnout, large hanging ears, and ſhort and thick thighs. Such a boar is eſteemed good for generation, from one to five years old. See plate XXIX. fig. 1.

Boar, in the manege. A horſe is ſaid to boar, when he ſhoots out his noſe as high as his ears, and toſſes his noſe in the wind.

BOARD, a long piece of timber, ſawed thin

thin for building and ſeveral other purpoſes. See the article TIMBER.

Barrel-BOARDS, imported from Ireland, Aſia, or Africa, pay only 11$\frac{55}{100}$d. the hundred; but if imported from elſewhere they pay 1 s. 5$\frac{17}{100}$d. Clapboards pay 4 s. 9$\frac{52}{100}$d. the hundred; but if imported from Ireland, Aſia, or Africa only 2 s. 10$\frac{65}{100}$d. Pipe-boards pay 5 s. 8$\frac{70}{100}$d. the hundred; but if from Ireland, &c. only 3 s. 10$\frac{20}{100}$d. Scale-boards pay 8 s. 5$\frac{45}{100}$d. the hundred weight; and $\frac{1}{2}$d. more if imported in foreign bottoms.

BOARD, among ſeamen. *To go aboard*, ſignifies to go into the ſhip. *To ſlip by the board*, is to ſlip down by the ſhip's ſide. *Board and board*, is when two ſhips come ſo near as to touch one another, or when they lie ſide by ſide. *To make a board* is to turn to windward; and the longer your boards are, the more you work into the wind. *To board it up*, is to beat it up ſometimes upon one tack, and ſometimes upon another. *She makes a good board*, that is, the ſhip advances much at one tack. *The weather board*, is that ſide of the ſhip, which is to windward.

BOARD is alſo uſed for an office under the government: thus we ſay the board of trade and plantations, the board of works, ordnance, &c.

BOARDING *a ſhip*, is entering an enemy's ſhip in a fight.

In boarding a ſhip, it is beſt to bear up directly with him, and to cauſe all your ports to leeward to be beat open; then bring as many guns from your weather ſide, as you have ports for; and laying the enemy's ſhip, on board, loof for loof, order your tops and yards to be manned, and furniſhed with neceſſaries; and let all your ſmall ſhot be in a readineſs; then charge, at once, with both ſmall and great, and, at the ſame time, enter your men under cover of the ſmoke, either on the bow of your enemy's ſhip, or bring your midſhip cloſe up with her quarter, and ſo enter your men by the ſhrouds: or if you would uſe your ordnance, it is beſt to board your enemy's ſhip athwart her hawſe; for, in that caſe, you may uſe moſt of your great guns, and ſhe only thoſe of her prow. Let ſome of your men endeavour to cut down the enemy's yards and tackle, whilſt others clear the decks, and beat the enemy from aloft. Then let the ſcuttles and hatches be broke open with all poſſible ſpeed to avoid trains, and the danger of being blown up by barrels of powder placed under the decks.

BOAT, a ſmall open veſſel, commonly wrought by rowing.

The ſtructure, and even the names of boats, are different, according to the different uſes they are deſigned for, and the places where they are to be uſed.

The ſeveral boats and their names are as follow: a long boat, a jolly boat, a ſkiff, a pinnace, a water-boat, a yaul; the preceding ſix are boats for ſhips. Other boats are a gondola, a Greenland boat, a Bermudas boat, a ballon of Siam, a horſe-boat; a periaga, a pleaſure boat, a ponton, a canoe, a crucle, a curry-curry, a deal hooker, a felucca, a ferry-boat, a praw, a flying-praw, a punt, a tilt-boat, a tod-boat, a well-boat, a wherry, &c.

The boats or wherries, plying about London, are either ſcullers, wrought by a ſingle perſon with two oars; or oars, wrought by two perſons, with each an oar. All boats, rowed with more than four oars above or below London-bridge, are forfeited, by 8 Geo. c. xviii.

De Chales propoſes the conſtruction of a boat, which, what burden ſoever it bear, ſhall not only move againſt the current, without either ſails or oars, but alſo advance ſo much the faſter, as the rapidity of the water is greater. Its make is the ſame with that of the others, excepting only a wheel added to its ſide, with a cord which winds round a roller, as faſt as the wheel turns.

BOATSWAIN, a ſhip-officer, to whom is committed the charge of all the tacklings, ſails and rigging, ropes, cables, anchors, flags, pendants, &c. He is alſo to take care of the long boat and its furniture, and to ſteer her either by himſelf or his mate.

He calls out the ſeveral gangs and companies aboard, to the due execution of their watches, works, ſpells, &c. He is likewiſe provoſt-marſhal, who ſees and puniſhes all offenders ſentenced by the captain, or a court-martial of the fleet.

BOATSWAIN'S MATE has the peculiar command of the long boat, for the ſetting forth of anchors, weighing or fetching home an anchor, warping, towing, or mooring; and is to give an account of his ſtore.

BOB, a term uſed for the ball of a ſhort pendulum.

BOB, in ringing of bells, denotes a peal conſiſting

consisting of several courses, or sets of changes.

BOBARTIA, in botany, a genus of the triandria digynia class of plants, the calyx of which is imbricated, and contains only a single flower; the corolla is a glume, consisting of two valves, and placed on the germen: the seed is single, of an oval figure, and is contained in the cup.

BOBBIN, a small piece of wood turned in the form of a cylinder, with a little border jutting out at each end, bored thro' to receive a small iron pivot. It serves to spin with the spinning-wheel, or to wind thread, worsted, hair, cotton, silk, gold, and silver.

There are bobbins of several lengths and sizes, according to the materials which are to be spun or wound. Those used by the silk dealers, and the manufacturers in gold and silver, are thick short bobbins; and so are those used by the woollen manufacturers.

BOBBING, among fishermen, a particular manner of catching eels different from sniggling.

Bobbing for eels is thus performed: they scour well some large lobs, and with a needle run a twisted silk through them from end to end, taking so many as that they may wrap them about a board a dozen times at least: then they tie them fast with the two ends of the silk, that they may hang in so many hanks; which done, they fasten all to a strong cord, and, about an handful and an half above the worms, fix a plummet three-quarters of a pound weight, and make the cord fast to a strong pole. With this apparatus fishing in muddy water, they feel the eels tug lustily at the bait; when they think they have swallowed it sufficiently, gently draw up the rope to the top, and bring them ashore.

BOBBIO, a town of the Milanese, in Italy, about twenty-eight miles south east of Pavia; east longitude 10°, and north latitude 44° 35′.

BOCA-CHICA, the entrance into the harbour of Carthagena, in South America, defended by several forts. See the article Carthagena.

Boca del drago, a strait between the island of Trinidad and new Andalusia, a province of Terra Firma. See the article Terra firma.

BOCARDO, among logicians, the fifth mode of the third figure of syllogisms, in which the middle proposition is an universal affirmative, and the first and last particular negatives, thus:

BO Some sickly persons are not students;
CAR Every sickly person is pale;
DO Therefore some persons are pale that are not students.

BOCCONIA, in botany, a genus of the polyandria-monogynia class of plants, whose corolla consists of four very narrow petals, and whose fruit is of an oval figure, but contracted on each side, long, and compressed, containing only one cell, and filled with pulp. The seed is single and globose.

BOCHARA, a large town of Usbec Tartary, situated on the river Oxus, about sixty miles west of Samarcand, in 63° east longitude, and 40° north latitude.

BOCKHOLT, a town of Munster, in Westphalia, situated in 6° 20′ east longitude, and 51° 40′ north latitude.

BOCK-LAND, in the Saxons time, is what we now call freehold lands, held by the better sort of persons by charter or deed in writing, by which name it was distinguished from folkland, or copy-hold land, holden by the common people without writing.

BODKIN, a small instrument made of steel, bone, ivory, &c. used for making holes.

The small gross, or twelve dozen, of Bodkins pays on importation 1 s. 3 $\frac{40}{100}$d. if of iron or steel, 4 s. 8 $\frac{25}{100}$d. and if of brass, only 3 $\frac{75}{100}$d.

BODMIN, a borough-town of Cornwall, about twenty-six miles north-east of Falmouth, in 5° 10′ west longitude, and 50° 32′ north latitude.

It sends two members to parliament, and gives the title of viscount to the earl of Radnor.

BODROCH, a town of Hungary, about an hundred miles south east of Buda, and situated on the north-east shore of the Danube, in 20° 15′ east longitude, and 46° 15′ north latitude.

BODY, in physics, an extended solid substance, of itself utterly passive and inactive, indifferent either to motion or rest; but capable of any sort of motion, and of all figures and forms.

According to the doctrine of the peripatetics, body is composed of matter, form, and privation. According to the epicureans and corpuscularians, the composition consists of an assemblage of hooked heavy atoms. According to the cartesians, of a certain quantity of extension. According to the newtonians, of an association

fociation of folid, maffy, hard, impenetrable particles, ranged or difpofed in this, or in that manner; whence refult bodies of this or that form, diftinguifhed by this or that name.

That all bodies agree in one common matter, the fchool-men themfelves allow, making what they call the *materia prima*, to be the bafis of them all, and their fpecific differences to fpring from their particular forms; and fince the true notion of body confifts either alone in its extenfion, or in that and its impenetrability together, it will follow, that the differences, which make the varieties of bodies we fee, muft not proceed from the nature of mere matter, of which we have but one uniform conception, but from certain attributes; fuch as motion, fize, pofition, *&c.* which we call mechanical affections.

Affections of BODY. See AFFECTION.

Modes of BODY. See the article MODE.

Elements of BODY. See ELEMENT.

Subftance of BODIES. We are as far, fays Mr. Locke, from the idea of the fubftance of body, by the complex idea of extended, figured, coloured, and all other fenfible qualities, which is all we know of it, as if we knew nothing at all: nor, after all the acquaintance and familiarity, which we imagine we have with matter, and the many qualities men affure themfelves they perceive and know in bodies, it will, perhaps, upon examination, be found, that they have no more or clearer primary ideas belonging to body, than they have belonging to the immaterial fpirit. The primary ideas we have peculiar to body, as contra-diftinguifhed from fpirit, are the cohefion of folid, and confequently feparable parts, and a power of communicating motion by impulfe. See the article SUBSTANCE.

Exiftence of BODIES is a thing incapable of being demonftrated. The order in which we arrive at the knowledge of their exiftence, feems to be this: we firft find we have fenfations, afterwards we obferve, that we have not thefe fenfations when we pleafe; and thence conclude, that we are not the abfolute caufe thereof, but that there is required fome other caufe for their production.

It is, however, a fubject of great difpute, whether external bodies have any exiftence but in the mind; that is, whether they really exift, or exift in idea only; the former opinion is fupported by Mr. Locke, and the latter by Dr. Berkley, as may be feen at fome confiderable length under the article EXISTENCE.

Colour of BODIES. Sir Ifaac Newton fhews, that bodies appear of this or that colour, as they are difpofed to reflect moft copioufly the rays of light, originally endued with fuch colours: but the particular conftitutions, whereby they reflect fome rays more copioufly than other, remain yet to be difcovered. See COLOUR.

Defcent of BODIES. Heavy bodies, in an unrefifting medium, fall with an uniformly accelerated motion; whence the fpaces defcended are in the duplicate ratio of the times and velocity, and increafe according to the uneven numbers 1, 3, 5, *&c.* The times and velocities are in a fubduplicate ratio of the fpaces. The velocity of defcending bodies is, in proportion to the times from the beginning of their fall; and the fpaces defcribed by a falling body, are, as the fquares of the times from the beginning of their fall. See the articles DESCENT, ACCELERATION, and MOTION.

Divifion of BODIES is generally into animate and inanimate; into thofe informed by a foul, and thofe that are not. Bodies are alfo divided into alkaline bodies, confiftent bodies, elaftic bodies, fixed bodies, heterogeneous bodies; for which fee the articles ALKALINE, CONSISTENT, ELASTIC, *&c.*

BODY, with regard to animals, is ufed in oppofition to foul, in which fenfe it makes the fubject of anatomy, and is that part of the animal compofed of bones, mufcles, canals, juices, nerves, *&c.* which, if confidered with regard to the various voluntary motions it is capable of performing, is an affemblage of an infinite number of levers, drawn by cords: if confidered with regard to the motions of the fluids it contains, it is another affemblage of an infinity of tubes and hydraulic machines; and if confidered with regard to the generation of thofe fluids, it is another infinite affemblage of chemical inftruments and veffels, the principal apparatus whereof, in the whole body, is the brain, that wonderful laboratory.

In the machine of the animal body, the retainers to the doctrine of trituration maintain the brain to do the office of the beam of a prefs, the heart of a pifton, the lungs of bellows, the mouth of a millftone, and the teeth of peftles; the ftomach of a prefs, the inteftines of a refervoir, the veffels of fieves and ftrainers, and

and the air of a pondus or fpring, that fets the machine a-going.

BODY is ufed by anatomifts to denote feveral particular parts of the animal fabric, as the callous body of the brain, *&c.*

The divifion of BODY, among phyficians, is into folids and fluids, alfo into venters or cavities, the head, thorax, and lower venter; the reft of the body they call members or extremities.

The peripatetics maintained, that the foul was the form of the human body; but fo far is animal life from depending on the foul, becaufe of its ceafing when the foul is feparated, that, on the contrary, the continuance of the foul depends intirely on the ftate of the body; the former never quitting the latter, till its œconomy or order is interrupted.

The cartefians maintain the foul and body to be too difproportionate for the ideas of the foul to be caufed by the motions of the body, and *vice verfa.* Thus their reciprocal motions, not being able to be the direct caufe of the one and the other, are only deemed the occafion, or occafional caufe. God, on occafion of the motion of a body, impreffes an idea of fenfation on the foul; and again, on occafion of an idea of the foul, communicates a motion to the body: confequently, according to them, God is the only agent of the whole intercourfe between foul and body.

Reticular BODY. See RETICULAR.

BODY, in geometry, is otherwife called a folid. See the article SOLID.

The regular bodies, or thofe which have all their angles and fides fimilar and equal, are five, *viz.* the tetrahedron, octahedron, dodecahedron, icofahedron, and the cube. See TETRAHEDRON, *&c.*

BODY, in law. A man is faid to be bound or held in body and goods; that is, he is liable to remain in prifon, in default of payment.

In France, all reftraints of the body for civil debts are null after four months, unlefs the fum exceeds two hundred livres.

A woman, though in other refpects fhe cannot engage her perfon but to her hufband, may be taken by the body, when fhe carries on a feparate trade.

BODY, among painters, as to bear a body, a term fignifying that the colours are of fuch a nature, as to be capable of being ground fo fine, and mixing with the oil fo intirely, as to feem only a very thick oil of the fame colour.

But fuch colours as are faid not to bear a body, will readily part with the oil when laid on the work; fo that when the colour fhall be laid on a piece of work, there will be a feparation; the colour in fome parts, and the oil in others, except they are tempered extraordinary thick.

BODY, in the manege. A horfe is chiefly faid to have a good body, when he is full in the flank. If the laft of the fhort ribs be at a confiderable diftance from the haunch bone, although fuch horfes may, for a time, have pretty good bodies, yet, if they are much laboured, they will lofe them; and thefe are properly the horfes that have no flank. It is alfo a general rule, that a man fhould not buy a light-bodied horfe, and one that is fiery, becaufe he will foon deftroy himfelf.

BODY, in the art of war, a number of forces, horfe and foot, united and marching under one commander.

Main BODY *of an army,* the troops encamped in the center between the two wings, and generally infantry: the other two bodies are the vanguard and the rear-guard; thefe being the three into which an army, ranged in form of battle, is divided.

BODY *of referve.* See *Body of* RESERVE.

BODY, in matters of literature, denotes much the fame with fyftem, being a collection of every thing belonging to a particular fcience or art, difpofed in proper order: thus, we fay, a body of divinity, law, phyfic, *&c.*

BOEDROMIA, in grecian antiquity, a feftival celebrated yearly by the Athenians in the month boedromion; for the ceremonies of which, fee Potter's arch. græc. b. ii. c. 20.

BOEDROMION, in chronology, the third month of the athenian year, anfwering to the latter part of our Auguft and beginning of September.

BOERHAAVIA, in botany, a genus of the monandria-monogynia clafs of plants, whofe flower confifts of a fingle campanulated petal, erect, and of a quinquangular form, divided into five fegments, that are fhort and emarginated. The fruit is a turbinated capfule, furrowed on the furface, and forming only one cell, within which there is lodged a fingle feed.

BOESCHOT, a town of the auftrian Netherlands, fituated in Brabant, about twelve miles north-eaft of Malines, in 4° 40′ eaft longitude, and 51° 5′ north latitude.

BOG properly signifies a quagmire, covered indeed with grass, but not solid enough to support the weight of the body; in which sense, it differs only from marshes or fens, as a part from the whole: some even restrain the term bog to quagmires pent up between two hills; whereas fens lie in champaign and low countries, where the descent is very small.

Bogs are frequent in Ireland, where they distinguish between a turf bog, called also red bog, out of which turf or peat is dug; and a quaking bog, which will sink under a man in the place where he stands to a considerable depth; underneath is frequently clear water, into which a person may slip up to the middle upon breaking the surface.

Every red bog is encompassed with a deep marshy sloughy ground, called the bounds of the bog. — The inconveniencies of bogs are, that a considerable part of the kingdom is rendered useless by them; they also keep people at a distance from each other, and thus hinder business from going forward. Bogs have also their uses; most of the people in Ireland have their firing from them; the wood being impoliticly destroyed, the Irish could hardly do without some bogs.

The natives had antiently another advantage from bogs; —that by means of them they were preserved from the conquest of the English: and it seems to be from the remembrance thereof, that they still chuse to build near bogs.

As to the *origin and formation of* BOGS, it is to be observed, that there are few places in the northern world, but have formerly been as famous for them as Ireland now is; every wild ill-inhabited country has them; the Loca Palustria, or Paludes, to which the antient Gauls, Germans, and Britons retired, when beaten, appear to be no other than what we now call bogs. The like may still be found in the barren parts of Italy, as Liguria. The true cause of bogs seems to be the want of industry; at least it is certain industry may remove, and much more prevent them; therefore it is no wonder if a country famous for laziness should abound with them; it is not impossible to drain bogs, so as to render them fit for pasture or arable, the same having been performed in England, France, &c. People commonly distinguish between bogs that have no fall to carry away the water, and those which have; the last are reputed drainable, and the former not: but Mr. King assures us, he never knew a bog but had a sufficient fall to drain it; nor does he believe there is any in reality but always have: the great objection against draining, is the charge which, it is commonly reckoned, would amount to much more than would purchase an equal quantity of good ground; for an acre of this last, in most parts of Ireland, is not worth more than four shillings *per ann.* and fourteen or fifteen years purchase; so that three pounds will buy an acre of good ground; and it is very doubtful with most, whether that sum will reduce a bog. This reasoning passes current, and this is the great impediment of this work. To this it is answered that quaking bogs, though land be never so cheap, never fail to be worth draining; one trench will drain many acres, and, when dry, it is the best meadow or grazing ground. Again what is called the bounds of a red bog, never fails to be worth draining, being done by one deep trench drawn round the bog; by this cattle are kept out of the bog, and the bounds turned into meadow.

Add, that even red bogs might be made fit for grazing, at a much cheaper rate than has hitherto been done, by a proper conduct in digging of trenches, particularly described by Mr. King.

Though some bogs are of a great depth, yet no more is required than to drain them to a certain level, which may be done several ways; 1st, by making a channel to carry off the water; 2dly, by throwing in plenty of dry earth, when they are almost dried up by the heat of the sun; 3dly, by setting their surfaces on fire; 4thly, by turning the water that feeds them another way.

To drain BOGGY *lands*, a good method is, to make trenches of a sufficient depth to carry off the moisture; and if these are partly filled up with rough stones, and then covered with thorn bushes and straw to keep the earth from filling up their interstices, a stratum of good earth and turf may be laid over all; the cavities among the stones will give passage to the water, and the turf will grow at top, as if nothing had been done. See FEN.

BOG, in geography, a river of Poland, which, running south east through the province of Podolia and Buziac Tartary, falls into the Euxine sea between Oczakow and the mouth of the Boristhenes.

BOG, or BOG OF GICHT, a small town of Scotland, near the mouth of the river Spey,

Spey, situated in 2° 23′ west longitude, and 57° 40′ north latitude.

BOGHO, or BUEIL, a town in the county of Nice, in Piedmont, situated on the frontiers of France, about twenty-five miles north-west of Nice, in 6° 45′ east longit. and 44° 12′ north latit.

BOGOMILI, or BOGARMITÆ, in church-history, a sect of heretics, which sprung up about the year 1179. They thought that but seven books of the scripture are to be received, that the use of churches, of the sacrament of the Lord's supper, and all prayer, except the Lord's prayer, ought to be abolished; that the baptism of catholics is imperfect, that the persons of the trinity are unequal, and that they oftentimes made themselves visible to those of their sect. They said, that devils dwelt in the churches, and that satan had resided in the temple of Solomon from the destruction of Jerusalem to their own time.

BOGOTO, the capital of New Granada, in Terra Firma, situated in 74° west longitude, and 4° north latitude.

BOHEA, in commerce, one of the best kinds of tea that come from China. There are three sorts of it: the first is bought at Canton for 80 tals per picë; the second for 45; and the third for 25. See the article TEA.

BOHEMIA, a kingdom subject to the house of Austria, bounded by Saxony on the north, by Poland and Hungary on the east, by Austria on the south, and by Bavaria and part of Saxony on the west. It lies between 12° and 17° east long. and 48° and 52° north lat.

BOHOL, one of the Philippine-islands, in Asia: east long. 122°, and north lat. 10°.

BOJANO, a city of Molise, in the kingdom of Naples, about fifteen miles north of Benevento; east longitude 15° 20′, and north latitude 41° 20′.

BOIGUACU, the largest of all serpents, being from twenty-four to forty feet long, and thick in proportion. It is found in the East and West-Indies, where the Europeans, as well as the natives, are extremely fond of it as food. See plate XXIX. fig. 4.

The boiguacu is a very terrible animal, lying in ambush in thickets or on branches of trees; from whence it darts itself on its prey. Authors of credit tell us, that it will swallow a goat, a bear, and even a stag, horns and all.

BOIL, or FURUNCLE, in surgery. See the article FURUNCLE.

BOILING, or EBULLITION, in physics, the agitation of a fluid body, arising from the application of fire, &c.

The phænomena of boiling may be thus accounted for: the minute particles of the fuel, being detached from each other, and impelled *in orbem* with a great velocity, *i. e.* being converted into fire, pass the pores of the containing vessel, and mix with the fluid. By the resistance they here meet, their motion is destroyed; that is, they communicate it wholly to the quiescent water; hence arises, at first, a small intestine motion in the water, and from the continued action of the first cause, the effect is increased, and the motion of the water continually accelerated; so that, by degrees, it becomes sensibly agitated. But now the particles of fire, sticking on those in the lowest surface of the water, will not only give them an impulse upwards, contrary to the laws of equilibrium, but will likewise render them specifically lighter than before, so as to determine them to ascend according to the laws of equilibrium; and this, either by inflating them into little vesicles, by the attraction of the particles of water around them, or by breaking and separating the little spherules of water, and so increasing the ratio of their surface to their solid content. There will be, therefore, a constant flux of water from the bottom to the top of the vessel, and consequently a reciprocal flux from the top to the bottom; that is, the upper and under water will change places; and hence we have the reason of that phænomenon of the water being hot at top, sooner than at bottom.

Again, an intense heat will diminish the specific gravity of water, so as not only to make it mount in water, but also in air; whence arise the phænomena of vapour and smoke, though the air, inclosed in the interstices of the water, must be allowed a good share in this appearance; for that air, being dilated and its spring strengthened by the action of the fire, breaks its prison, and ascends through the water into the air, carrying with it of the contiguous spherules of water, so many as shall hang in its villi, or as can adhere immediately to it.

The particles of the air, in the several interstices of the fluid mass thus expanded and moving upwards, will meet and coalesce in their passage; by which means great quantities of the water will be heaved up and let down alternately, as

as the air rifes up, and again paffes from the water; for the air, after coalition, though it may buoy up a great heap of water by its elafticity, while in the water, yet cannot carry it up with itfelf into the atmofphere; fince, when once got free from the upper furface of the water in the veffel, it will unbend itfelf in the atmofphere, and fo its fpring and force become juft equal to that of the common unheated air; and hence we fee the reafon of the principal phænomenon of boiling, *viz.* the fluctuating of the furface of the water.

The ingenious Mr. Amontons has fhewn, that water heated to a degree of boiling, will not conceive any further heat, how much foever the fire be increafed. Yet this excellent difcovery may receive a confiderable improvement from what Mr. Fahrenheit has obferved, *viz.* that the heat of the fame boiling water is always regularly greater, by how much the weight of the atmofphere is greater which preffes upon its furface: and again, that the fame heat of the boiling water diminifhes, as the weight of the incumbent atmofphere grows lefs. Hence in marking the degree of heat in boiling water, it will be neceffary to note the weight of the atmofphere at the fame time by the barometer; otherwife no certain meafure will be expreffed. In the mean time, however, it muft be allowed, that fo long as the preffure of the atmofphere continues the fame, boiling water will not grow hotter by any increafe of fire whatever; and with this limitation, Mr. Amontons' rule will for ever hold true. When the difference of the weight of the atmofphere is three ounces, the greateft degree of heat in boiling water, under thefe different weights, will be 8 or 9 degrees. From whence, the author evidently deduces, that by how much the particles of water are more compreffed to each other upon increafing the incumbent weight, by fo much the more fire is required to make them recede from each other, wherein ebullition confifts. Hence alfo he concluded, that a thermometer applied in boiling water, would mark by the degrees of heat it expreffes, the gravity of the atmofphere at that time.

Water, in the receiver of an air-pump, when exhaufted, will boil without any great heat. The receiver fhould, for this experiment, be one part full of water, and three empty: in this cafe, the flame of a candle being placed under the veffel, the water will boil violently, while the glafs itfelf is fcarce warm; and when the water has been thus kept boiling a quarter of an hour, the glafs will fcarce be any thing the hotter for it. When the candle is taken away, the water will ftill continue a great while boiling, and when it ceafes firft, will renew itfelf again from time to time to a very great ebullition. All the bubbles that rife out of the water on this occafion, do not raife the mercury in a gage to any fenfible height.

Spirit of wine, in the fame manner, boils much fooner in vacuo than the water, and in this ftate will raife the mercury in the gage to an inch higher than its former ftandard. If the receiver containing it in this boiling ftate, be plunged into cold water, the liquor, inftead of becoming calm, boils more ftrongly than before. It might be fuppofed, that this phænomenon was owing to a periftafis; but we have more ground to fay it came from hence, that the vapours of the fpirit were more condenfed, and fo made the receiver more empty, which is fufficient to make the fpirit of wine boil, though it were not hot, as liquors ufually do when put into the engine, and the air exhaufted. In all thefe, and many other cafes, boiling is induced without that heat, which is fuppofed a neceffary concomitant of it.

BOIS DE SOIGNIES, the foreft of Soignies, in the auftrian Netherlands, and province of Brabant, about three miles fouth-eaft of Bruffels.

BOISLEDUC, called by the Dutch Hertogenbofch, a large fortified town of dutch Brabant, fituated on the river Bommel, about twenty-three miles north-eaft of Breda; eaft longitude 5° 20′, and north latitude 51° 45′.

BOLE, a genus of earth, moderately coherent, ponderous, foft, and not ftiff or vifcid, but in fome degree ductile while moift; and compofed of fine particles, fmooth to the touch, eafily breaking between the fingers, readily diffufible in water, and freely and eafily fubfiding from it.

Boles are either white, yellow, red, brown, or green.

I. Of white boles we have the following fpecies. 1. The pure white bole armenic, efteemed a fudorific and aftringent, but unknown to our fhops. 2. A white friable bole, dug near Frankfort, and counted fudorific and aftringent, and accordingly prefcribed in fpittings of blood, and ulcers of the lungs. 3. A hard, heavy

vy white bole, called *terra nocerana*, in great esteem in malignant fevers, and against the bites of venemous animals. 4. The white lemnian earth, a light, white bole, esteemed good in dysenteries, hæmorrhages, and malignant fevers. 5. The greyish-white bole, called earth of Goltberg, and used as an astringent, cordial, and sudorific. 6. The yellowish white bole, or tuscan earth, prescribed as a sudorific, and in diarrhœas. 7. A white, soft, heavy bole, called earth of Malta, prescribed against venemous bites. 8. A whitish alkaline bole, called eretrian earth, and said to be a noble astringent and sudorific. 9. A hard, whitish, alkaline bole, found near Bengal, and used with success in fluxes and fevers.

II. Of the yellow boles, these are the species. 1. The yellow bole armenic, said to be an excellent astringent, sudorific, and alexipharmic. 2. The bole of Blois, of a pure and light yellow colour, and a powerful astringent. 3. The friable, yellow bole of Tokay, esteemed a good astringent. 4. The yellow lemnian earth, accounted a good sudorific, astringent, and vulnerary. 5. The friable gold-coloured bole, brought from Westphalia, frequently used in cordial and astringent electuaries. 6. The brownish-yellow bole, called silesian earth, a good astringent. 7. The light, friable, reddish-yellow bole, called livonian earth, esteemed a better astringent than most of the other boles. 8. The firm and heavy reddish-yellow bole, called bohemian bole, esteemed an excellent medicine in malignant fevers, and fluxes of all kinds.

III. Of the red boles, authors enumerate the following species. 1. A hard red bole, or bole armenic of Avicenna; a good astringent, but seldom met with genuine. 2. A heavy, compact, pale-red bole, dug in many parts of France. 3. A light friable, dull-red bole, called sealled earth of Striga. 4. A heavy, friable, red bole, called livonian earth; a powerful astringent. 5. A heavy, friable, pale-red bole, called sealled earth of Tuscany; prescribed in fevers, and fluxes of all kinds, with good success. 6. A friable, weighty, fine red bole, found in Portugal, and esteemed a good medicine against poisons, and in malignant fevers. 7. The red lemnian earth, which is hard and weighty. 8. The friable greyish-red bole, called Turky earth, used as a sudorific and astringent. 9. A hard pale-red bole, found in many parts of America.

IV. Of the brown boles, there are only three species. 1. A pure, pale-brown bole, said to be a good astringent. 2. The dense, heavy, pale-brown bole, found in many parts of Germany, and used as a sudorific and astringent. 3. The light, friable, brown-bole, found in many parts of England, thought to be a good astringent.

V. Of the green boles, there is only one known species, found in the perpendicular strata of stone in many parts of England, and thought improper to be used internally in medicine, on account of the copper it contains.

BOLETUS, in botany, a genus of the cryptogamia fungi class of plants, growing horizontally, and porous underneath.

BOLINGBROOK, or BULLINGBROKE, a market town of Lincolnshire, about twenty-five miles east of Lincoln: east longitude 15′, and north lat. 53° 15′.

BOLLARDS, large posts set into the ground, on each side of a dock: on docking or undocking ships, large blocks are lashed to them; and thro' these blocks are reeved the transporting hawsers to be brought to the capstons.

BOLLITO, a name by which the Italians call a sea-green colour in artificial crystal. To prepare this colour, you must have in the furnace a pot filled with forty pounds of good crystal, first carefully skimmed, boiled, and purified, without any manganese: then you must have twelve ounces of the powder of small leaves of copper, thrice calcined, half an ounce of zaffer in powder: mix them together, and put them at four times into the pot, that they may the better mix with the glass, stirring them well each time of putting in the powder, for fear that it should swell too much and run over.

BOLOGNA, a city of Italy, fifty miles north of Florence. It is about five miles in circumference, and is remarkable for its magnificent churches and monasteries, as well as for its university, which is one of the most considerable in Europe: east long. 11° 40′, and north lat. 44° 30′.

BOLOGNE, or BOULOGNE. See the article BOULOGNE.

BOLSENNA, a town of the pope's territories in Italy, about forty-five miles north

north of Rome, at the north end of a lake to which it gives name: eaft long. 13°, and north latitude 42° 40′.

BOLSLAW, a town of Bohemia, fituated on the river Sizera, about thirty miles north-eaft of Prague; eaft longitude 14° 45′, and north latitude 50° 24′.

BOLSTERS *of a faddle*, thofe parts of a great faddle which are raifed upon the bows, both before and behind, to hold the rider's thigh, and keep him in a right pofture.

BOLSWAERT, a town of weft Friezland, in the united provinces, about eighteen miles fouth-weft of Lewarden: eaft longitude 5° 20′, and north latitude 53° 10′.

BOLT, among builders, an iron faftening fixed to doors and windows. They are generally diftinguifhed into three kinds, *viz.* plate, round, and fpring bolts.

Bolts in gunnery are of feveral forts, as, 1. Tranfum bolts, that go between the cheeks of a gun-carriage, to ftrengthen the tranfums. 2. Prife bolts, the large knobs of iron on the cheeks of a carriage, which keep the hand-fpike from fliding when it is poizing up the breech of a piece. 3. Traverfe bolts, the two fhort bolts that being put one in each end of a mortar carriage, ferve to traverfe her. 4. Bracket bolts, the bolts that go through the cheeks of a mortar, and by the help of quoins keep her fixed at the given elevation. And, 5. Bed bolts, the four bolts that faften the brackets of a mortar to the bed.

Bolts in a fhip are iron pins of which there are feveral forts, according to their different make and ufes. Such are, Drive bolts, ufed to drive out others. Ray bolts, with jags or barbs on each fide, to keep them from flying out of their holes. Clench bolts, which are clenched with rivetting hammers. Forelock bolts, which have at the end a forelock of iron driven in to keep them from ftarting back. Set bolts, ufed for forcing the planks, and bringing them clofe together. Fend or fender bolts, made with long and thick heads, and ftruck into the uttermoft bends of the fhip, to fave her fides from bruifes. And ring bolts, ufed for bringing to of the planks, and thofe parts whereto are faftened the breeches and tackles of the guns.

BOLTHEAD, among chemifts, the fame with cucurbit. See CUCURBIT.

BOLTING, a term formerly ufed in our inns of court, for the private arguing of caufes. An antient and two barrifters fat as judges, and three ftudents bringing each a cafe, out of which the judges chofe one to be argued, the ftudents firft began to argue it, and after them the barrifters. It was inferior to mooting. See the article MOOT.

BOLTON, a market-town of Lancafhire, about twenty-feven miles north-eaft of Liverpool; weft longitude 2° 20′, and north latitude 53° 35′.

BOLUS, an extemporaneous form of a medicine, foft, coherent, a little thicker than honey, and the quantity of which is a little morfel or mouthful; for which reafon it is by fome called buccella.

Whatever is fit for internal ufe, either by itfelf, or when mixed with other fubftances, provided it is capable of the above-mentioned confiftence, is a proper material for the compofition of a bolus. Such are foft fubftances more or lefs thick, as conferves, electuaries, robs, pulps, extracts, fyrups and liquid fubftances, as oils, fpirits, effences, elixirs, *&c.* The dofe of a bolus may be extended from one dram to one dram and a half, or two drams.

BOMAL, a town of Luxemburg, in the auftrian Netherlands, fituated on the river Ourt, about twenty miles fouth of Liege; eaft longitude 5° 30′, north lat. 50° 20′.

BOMB, in military affairs, a large fhell of caft iron, having a great vent to receive the fufee, which is made of wood. The fhell being filled with gunpowder, the fufee is driven into the vent or aperture, within an inch of the head, and faftened with a cement made of quick-lime, afhes, brick-duft, and fteel-filings, worked together in a glutinous water: or of four parts of pitch, two of colophony, one of turpentine, and one of wax. This tube is filled with a combuftible matter, made of two ounces of nitre, one of fulphur, and three of gunpowder duft, well rammed. To preferve the fufee, they pitch it over, but uncafe it when they put the bomb into the mortar, and cover it with gunpowder duft; which having taken fire by the flafh of the powder in the chamber of the mortar, burns all the time the bomb is in the air; and, the compofition in the fufee being fpent, it fires the powder in the bomb, which burfts with great force, blowing up whatever is about it. The great height the bomb goes in the air, and the force with which it falls, makes it go deep into the earth.

For the theory of throwing bombs, fee the article PROJECTILES.

BOMB-CHEST, a kind of cheft filled ufually with bombs, fometimes only with gunpowder, placed under ground to tear it and blow it up into the air, with thofe who ftand on it. It was fet on fire by means of a fauciffe faftened at one end, but is now much difufed.

BOMBARD, a piece of ordnance antiently in ufe, exceedingly fhort and thick, and with a very large mouth. There have been bombards which have thrown a ball of 300 pound weight. They made ufe of cranes to load them.

The Bombard is by fome called bafilifk, and by the Dutch, donderbufs. See the article BASILISK.

BOMBARDIER, a perfon employed about a mortar. His bufinefs is to drive the fufee, fix the fhell, load and fire the mortar, and to work with the fire-workers on all forts of fire-works, whether for war or recreation.

BOMBARDMENT, the havock committed in throwing bombs into a town or fortrefs.

BOMBARDO, a mufical inftrument of the wind kind, much the fame as the baffoon, and ufed as a bafe to the hautboy.

BOMBASINE, a name given to two forts of ftuffs, the one of filk, and the other croffed, of cotton.

Bombafine of filk pays duty on importation as other foreign filks. See SILK. That of cotton pays each piece, not exceeding 15 yards, if narrow, 1 l. 3 s. $1\frac{2}{100}$d. but if broad, 1 l. 6 s. $11\frac{40}{100}$d.

BOMBAST, in matters of literature, high fwelling language made up of hard words, with little meaning, and lefs fenfe.

BOMBAX, in botany, a genus of the polyandria monogynia clafs of plants, the calyx of which is a large coloured permanent perianthium, confifting of four or five leaves: the corolla confifts of a great number of petals (oftentimes fifteen) lefs than the cup; the fruit is a hard oval, flefhy berry, containing many cells (from ten to fifteen) and full of pulp; the feeds are numerous and roundifh.

BOMBAY, an ifland on the weft coaft of the higher peninfula of India, fituated in 72° 20′ eaft long. and 18° 30′ north lat. It is about feven miles long, and twenty in circumference; and is the property of our Eaft India company.

BOMB-KETCH, a fmall veffel built and ftrengthened with large beams for the ufe of mortars at fea.

BOMBUS, in medicine, a refounding and ringing noife in the ear, which is accounted by Hyppocrates a mortal fymptom in acute difeafes.

BOMBYX, the filk-worm, in zoology. See the article SILK.

Bombyx was alfo ufed, by antient naturalifts, indifferently for filk or cotton.

BOMENE, a port town of Zeland, in the united provinces, fituated on the northern fhore of the ifland Schönen, oppofite to the ifland of Goree; eaft longitude 4°, and north latitude 51° 50′.

BOMMEL, a town of dutch Guelderland, fituated on the northern fhore of the river Waall, about four miles north-eaft of Nimeguen: eaft longitude 5° 50′, and north latitude 52°.

BOMONICI, in grecian antiquity, young men of Lacedæmon, who contended at the facrifices of Diana which of them was able to endure moft lafhes; being fcourged before the altar of this goddefs.

BON, in geography, a town of the electorate of Cologn, in Germany, fituated on the weftern fhore of the river Rhine, about twelve miles fouth of Cologn; eaft longitude 7°, and north latitude 50° 35′. It is a fmall but well fortified town, and has a fine palace, which the elector of Cologn makes his ufual refidence.

BONA, in geography, a port town of the kingdom of Algiers, in Africa, about two hundred miles eaft of the city of Algiers; eaft longitude 8°, north lat. 36°. There is alfo a cape called Bona, on the fame coaft to the eaftward, almoft oppofite to Sicily.

BONA-FIDES, or BONA-FIDE, among lawyers, is as much as to fay, fuch a thing was done really, without either fraud or deceit.

A man is faid to poffefs any thing *bona-fide*, who is ignorant of that thing's being the property of another; on the contrary, he is faid to poffefs a thing *mala-fide*, who is confcious of its being the property of another.

BONA NOTABILIA, are fuch goods as a perfon dying has in another diocefe befides that wherein he dies; amounting to the value of 5 l. at leaft; in which cafe the will of the deceafed muft be proved, or adminiftration granted in the court of the archbifhop of the province, unlefs by compofition, or cuftom, any diocefes are authorifed

thorifed to do it, when rated at a greater fum.

BONA PATRIA, an affife of countrymen, or good neighbours, where twelve or more are chofen out of the country to pafs upon an affife, being fworn judicially in the prefence of the party.

BONAIRE, an ifland near the coaft of Terra Firma, in South America, fituated in 67° weft long. and 12° 30′ north lat. It is fubject to the Dutch, who traffic from thence with the Caraccao-coaft.

BONASUS, in zoology, a fpecies of wild ox, very thick and bulky, and furnifhed with a mane like a horfe. See plate XXIX. fig. 2.

The bonafus is a very unwieldy animal, being larger than our bull: the horns are but fhort, and fo turned as to be unfit for wounding: the noftrils are wide and the ears long and broad: the colour of the animal is a deep tawny; only the forehead and the breaft are white, and the mane is of a darker colour than that of the reft of the body. When purfued, it does not attempt to defend itfelf with its horns, but kicks, and difcharges its dung to a great diftance againft the purfuers.

BONAVISTA, one of the cape Verd-iflands, fubject to Portugal: weft long. 23°, and north lat. 16° 30′.

BOND, an obligatory inftrument, or deed, in writing, whereby one binds himfelf to another to pay a certain fum of money, or perform fome certain acts; as that the obligor fhall make a releafe, execute a fufficient conveyance of his eftate, fave the obligee harmlefs, perform the covenants of a deed, &c.

A bond contains an obligation with a penalty, and a condition generally written under it, which exprefsly mentions the fum that is to be paid, or other thing to be performed, and to whom, with the limited time thereof, for which the obligation is peremptorily binding.

The condition of a bond muft be to do fomething lawful; for if it be to perform an act *malum in fe*, as to kill a perfon, &c. it is void: likewife bonds not to ufe trades, &c. are unlawful and void: fo alfo are bonds made by compulfion, by infants, and *feme coverts*, &c. but if a drunken man voluntarily gives his bond, it fhall bind him; and a bond, though it be without any confideration, is binding. Where a bond has no date, or a falfe one is inferted therein, if it be fealed and delivered, it is a good bond; and a perfon fhall not be charged by any bond, though figned and fealed, without delivery or words, or other thing, amounting to it. Notwithftanding a bond be made to pay money on the 30th of February, and there be no fuch day, the bond is good, and the money fhall be paid prefently. It is the fame if no time is limited; in that cafe it muft be immediately paid, or in convenient time.

If a bond be of twenty years ftanding, and no demand is proved to be made thereon, or good caufe fhewn for fo long forbearance, upon pleading the payment at the day, it fhall be intended paid.

BOND, in carpentry, a term among workmen; as, to make good bond, means that they fhould faften the two, or more pieces, together, either by tenanting, mortifing, or dovetailing, &c.

BONDAGE, properly fignifies the fame with flavery; but, in old law-books, is ufed for villenage. See VILLENAGE.

BOND-MAN, the fame with villain. See the article VILLAIN.

BONE, in anatomy, a hard, brittle, infenfible part of the body, affording form and fupport to the whole machine.

The doctrine of the bones makes a particular branch of anatomy, under the denomination of ofteology. See the article OSTEOLOGY.

The formation or genefis of the bones, is called offification or ofteogony. See the article OSSIFICATION.

A fyftem of the feveral bones of a body, dried, whitened, and joined together in their natural order by art, is called a fkeleton, and animals without bones are faid to be anoftei; fuch are all the fpecies of reptiles, infects, &c.

The integral or conftituent parts of bones, are their periofteum, or invefting membrane, their fubftance, pores, marrow, glands, veffels, &c.

The periofteum hath two forts or feries of fibres; the under, derived from the *dura mater*; the upper, from the membrane of the mufcles that lies upon it; which fibres lie one upon the other, but are not interwoven one with the other: the under fibres run all parallel from one end of the bone to the other, and are continued from one bone to another, by means of the ligaments that join them together in their articulations, upon which they pafs. The outer hold the fame courfe with the fibres of the mufcle, from whence they are derived, fometimes ftrait, fometimes oblique, fometimes

tranſverſe; and when they run ſo far as to make up their part of the perioſteum, it is thought they are inſerted into the bone, and are ſucceeded by others, from ſome other muſcles. The inner ſuperficies of the perioſteum, ſticks as cloſe to the bone as if it were glued to it; and beſides, the perioſteum has little *fibrillæ* or threads continued from it, that enter into the ſubſtance of the bone, which give them probably ſome internal ſenſe.

The uſes aſcribed to it are, 1. To be a tegument to the bones. 2. To convey ſpirits into the ſubſtance of the bones, for maintaining their heat, for preſerving their ſenſibility, and to aſſiſt in the work of their concretion and nutrition, by means of the minute fibres it emits into them. 3. To help to ſet limits to the growth and extenſion of the bones, as the bark is ſometimes obſerved to bind young trees ſo, that it is neceſſary to open it, before they can have the liberty of thriving. 4. It is ſerviceable in the conjunction of the bones, and their epiphyſes.

The ſubſtance of the bones is ſaid to conſiſt of lamellæ, or plates lying one upon the other; and conſiſt of ſmall ſtrings, running lengthways of the bones (like as we ſee in whale-bone) which ſtrings, tho' ſome of them run to the very extremities of the bones, and others approach near to them, do not terminate there, ſo as to have diſtinct ends; but they are, where they may be thought to terminate, ſtill continued, and run tranſverſly, and as it were, arch-wiſe; ſo that the ſtrings of one ſide of the bone proceed ſo as to meet and be united to thoſe that are propagated from the oppoſite; and this at both extremities; being a continuation, tho' not in the figure, yet in the manner of a ring: therefore they are not all of a length, but in every plate they fall one ſhorter than another.

In ſeveral bones, the lamellæ are diſpoſed diverſly. In thoſe bones which have a large cavity, they are on every ſide contiguous, and cloſely united: but in thoſe which have not any great cavity, but are altogether ſpungious within, many of the internal laminæ are placed at ſome diſtance one from another in all their lengths, having between them a cavernous ſubſtance, or ſmall bony cells; and ſo have all thoſe bones, containing a large cavity, ſome of thoſe cells at both their extremities.

In the bones whoſe plates are contiguous, there are pores thro' and between the plates, beſides thoſe which are made for the paſſage of the blood-veſſels; and theſe are of two ſorts, the one penetrate the laminæ, and are tranſverſe, looking from the cavity to the external ſuperficies of the bone. The ſecond ſort are formed between the plates, which are longitudinal and ſtrait, tending from one end of the bone towards the other, and obſerving the courſe of the bony ſtrings.

The firſt kind are formed not only in the firſt internal laminæ, but in every one, even to the outermoſt; though the nearer they are to the cavity, the greater is the number of the pores.

The ſecond kind, *viz.* the longitudinal, are not to be obſerved but by the help of good glaſſes; unleſs it be now and then in ſome particular bones: by theſe it is that the medullary oil diffuſes itſelf, and is immediately beneficial to the plates. The other, *viz.* the tranſverſe, are but ſubordinate to theſe, and rather deſigned for the paſſage of the marrow into them, than for the immediate communication of it to the ſubſtance of the bone.

The medulla, contained in the bones, conſiſts (beſides the blood-veſſels) of an inveſting membrane, in which are included membranaceous lobules, and bags; and in theſe bags veſiculæ, or glandulous bladders, very like the veſicular ſubſtance of the lungs. See the articles Marrow and Medulla.

Dr. Havers divides alſo the blood-veſſels of the bones into nutricious and medullary; the moſt conſiderable of the nutricious enter at the ends of the bone, *viz.* the artery at one end, and the veins at the other.

Some bones have long cavities in them, as the os humeri and femoris, the ulna and radius, tibia and fibula, &c. beſides theſe large cavities which are in the inſide of the bones, there are leſs cells or caverns in their ſubſtance, which are found in all bones, even thoſe which have a large cavity: beſides theſe, moſt have ſuperficial cavities, or ſinuſes, which are diſtinguiſhed into ſulci, or furrows, and the holes for the nutricious and medullary veſſels to enter by.

On the ſurface of the bones are obſerved two kinds of prominences, one of which is a continued part of the bone jutting apparently above its plain ſuperficies, for the more commodious inſertion of the muſcles, &c. called apophyſis, or proceſſus; the other an additional bone, growing

growing to another by mere continuity, being generally more soft and porous than the other, and called an epiphysis, or appendage.

The bones are connected together various ways, according to the various purposes they are to serve, some being intended for motion, others for rest, and the support of the incumbent parts only.

The number of the bones is various in various subjects; ordinarily it is about two hundred and forty-two, some say three hundred, others three hundred and seven, others three hundred and eighteen, but the later writers fix it at two hundred and forty nine, or two hundred and fifty.

Wounds of the BONES. As blunt instruments usually make fractures of the bones, so sharp ones, such as swords, spears, &c. do, properly speaking, sometimes wound them; and these wounds cannot be suffered, without a great variety of symptoms, which are often very dangerous, according to the size and depth of the wound, and the nature of the wounded part. Such slight wounds as do not penetrate deep into the bone, are often attended with no great danger, especially if proper care be taken in the dressing of them, and the injured bone be as much as possible kept covered with its integuments, from the injuries of the external air. All fat and oily medicines must be wholly rejected in wounds of this kind, as great enemies to the bones. But when wounds of this kind penetrate deep, and wholly divide the bone and its adjacent parts, or violently affect any of the organs necessary to life, in the head, neck, back-bone, or breast, with a puncture or division of the longer veins, arteries, nerves, and tendons of the upper and lower limbs, the danger is always great, the cure difficult, and death too often the consequence.

Petit has advised, that in wounds of the bones, if the solution be inflicted lengthwise, the lips of the wound are to be closed and united by the uniting bandage; but if the wounds are very oblique, or wholly transverse, then they are to be joined together by suture, and the eighteen-headed bandage; but this is certainly a wrong method in many cases of this kind. Indeed, in the first kind of these wounds, and when they are very slight, as when the skull is not wholly, nor indeed very deeply penetrated, and that without contusion, nor the brain much hurt, this method may do very well; but when the contrary of these mild symptoms are the case, a very different method of cure is to be attempted; the wound is to be kept open with lint, and not healed up till thoroughly cleansed; for, by a too speedy closure of such wounds, the very worst symptoms, and even death very often, are brought on.

So also, in slight, oblique, or transverse wounds of the bones, the suture, or the eighteen-headed bandage, may be used with safety and success; but these are seldom necessary; and in oblique wounds of the head, forehead, and cranium, if not violent ones, the parts may be much easier closed and retained by a common bandage and plaster, than by sutures with the needle, or the eighteen-headed bandage; but when the divided part hangs down, the suture may indeed be necessary.

If the bones of the fingers are thus wounded, or wholly divided by a sword, they may be happily cured without the suture, by the following method. First, accurately replace the divided bone, then secure it in its place, by winding round a slip of plaster, and, over this, applying a compress dipped in spirit of wine, and laying over all little slips of pasteboard, by way of splints; then binding up the whole with a proper narrow bandage, and hanging the arm in a sling from the neck. Once, in about three days, the dressing is to be removed, and the wound treated with a vulnerary essence, and in a month the cure will be perfected.

If either of the bones of the cubitus be divided, it usually is the ulna, as that is most exposed to the sword in fighting. This case requires neither the suture nor eighteen-headed bandage; but the wound being cleansed, is to be treated with some vulnerary essence or balsam, and with lint dipped in the same essence; after which are to be laid on, in order, the plaster, compress, and pasteboard splints, wetted with spirit of wine, which are to be bound round the thick part of the cubitus near the wound, with a long bandage, that, as they dry, they may accommodate themselves the better to the figure of the part; and, lastly, the arm is to be suspended in a sling hung round the neck: after this, the wound is to be dressed every day, or every other day, in proportion to the discharge, and a cure without the help of the suture will be easily effected; the suture in such cases, being not only unnecessary but pernicious. But if both bones are

are divided, then indeed the eighteen-headed bandage may be neceſſary, and uſed with advantage; but, even in this caſe, the ſuture is much better let alone: for it is always to be avoided, except when perfectly neceſſary, from the dangers of inflammation, convulſions, and other bad ſymptoms that too naturally attend it.

If the thigh-bone, however, ſhould be cut with a ſword, in that caſe the bloody ſuture will be of ſervice, and is even neceſſary to cloſe and retain thoſe very ſtrong muſcles: the wound is, in this caſe, to be carefully treated, and the limb laid up in a caſe of ſtraw, as in other fractures: ſo alſo, if the bone of the humerus, or arm, ſhould be penetrated with a ſword, that wound alſo ſhould, for the ſame reaſon, be treated by the ſuture; but then it is not to be dreſſed with the eighteen-headed bandage, but with the common long and narrow bandage uſed in other fractures of the arm; the limb is afterwards to be ſupported by a ſhort napkin, faſtened about the neck, by which means the muſcles will be brought to a more ready union, and the cure ſooner perfected.

If it ſhould happen that both bones of the cubitus or leg ſhould be divided by a ſword, ſo as to leave the limb hanging only by the fleſh, ſkin, and blood veſſels, which is a caſe that very rarely happens, without wholly amputating the limb, then alſo the ſuture, with the eighteen-headed bandage, are the neceſſary applications; the ſuture, however, can be of no ſervice in a caſe of this kind, when the fleſh and blood-veſſels are divided, and the limb ſo far cut off, as to hang only by a ſkin, eſpecially when the part is ſo conſiderable as the leg or arm; for, in theſe caſes, the limb muſt be taken off, and the ſtump dreſſed as in other amputations.

When the lower jaw is ſo cut by a ſword, that the piece ſeparates, and cannot be otherwiſe retained, then alſo the ſuture may be uſed, adding a proper compreſs, plaſters, and the ſuitable bandage. If the clavicle, or acromion ſcapulæ, ſhould in like manner, be wounded by a ſword, the treatment and bandage are to be of the ſame kind, gently unbending, cleanſing and dreſſing the part either every day, or every other day, as the diſcharge ſhall require, till the cure is perfected.

No medicines ſo effectually prevent the corruption of bones laid bare, and aſſiſt to cover them ſo ſoon with fleſh, as ointments, balſams, and dreſſing ſeldom, to have the aſſiſtance of the moſt effectual balſam of all, *pus*. With theſe we ſee the extremities of amputated bones covered over with fleſh, part of the ſkull, tibia, and other ſolid bones, covered in a little time with granulated fleſh, after they had been laid quite bare by wounds made even with bruiſing inſtruments; and likewiſe after their carious ſurface had been cut off, and a complete cure made, without the leaſt exfoliation.

Other accidents to which the BONES *are liable*, are fractures, luxations, *&c.* See the articles FRACTURE, LUXATION, *&c.*

Diſeaſes of the BONES, are caries, exoſtoſes, fiſſures, nodes, tophi, rickets, *&c.* See CARIES, EXOSTOSIS, *&c.*

Foſſile or *petrified* BONES, thoſe found buried in different ſtrata, not excepting the hardeſt rocks, where they have undergone ſo great a change as to be converted into a ſtony ſubſtance. See the article PETRIFACTION.

Neper's BONES. See the article NEPER'S BONES.

BONE-ACE, an eaſy but licking game at cards, played thus: the dealer deals out two cards to the firſt hand, and turns up the third, and ſo on through all the players, who may be ſeven, eight, or as many as the cards will permit; he that has the higheſt card turned up to him, carries the bone, that is, one half of the ſtake, the other remaining to be played for: again, if there be three kings, three queens, three tens, *&c.* turned up, the eldeſt hand wins the bone: but it is to be obſerved, that the ace of diamonds is bone-ace, and wins all other cards whatever. Thus much for the bone; and as for the other half of the ſtake, the neareſt to thirty-one wins it, and he that turns up or draws thirty-one, wins it immediately.

BONGO, or BUNGO, the capital of one of the iſlands of Japan, to which it gives name: eaſt longitude 132°, and north latitude 32° 30′.

It is a ſea-port town, ſituated on the eaſt ſide of the iſland, oppoſite to the iſland of Tonſa, from which it is ſeparated by a narrow channel.

BONIFACIO, in geography, a port-town of Corſica, ſituated at its ſouth end, in 9° 20′ eaſt longitude, and 41° 20′ north latitude.

It is one of the beſt towns in the whole iſland, and gives name to the ſtreight between Corſica and Sardinia.

BONIS NON AMOVENDIS, in law, is a writ directed to the sheriffs of London, *&c.* charging them, that a person, against whom judgment is obtained, and prosecuting a writ of error, be not suffered to remove his goods until the error is determined.

BONITO, in ichthyology, a very beautiful fish, of the tunny-kind, with a broad gold-coloured streak running along the middle of each side from the gills to the tail. See the article SCOMBER.

BONNET, in a general sense, denotes a cover for the head, in common use before the introduction of hats. See HAT. Bonnets are still used in many parts of Scotland.

BONNET, in fortification, a small work, consisting of two faces, having only a parapet with two rows of palisadoes, of about ten or twelve feet distance: it is generally raised before the saliant angle of the counterscarp, and has a communication with the covered way, by a trench cut through the glacis, and palisadoes on each side.

BONNET A' PRETRE, or *priest's* BONNET, in fortification, is an out-work, having at the head three saliant angles, and two inwards. It differs from the double tenaille only in this, that its sides, instead of being parallel, are like the *queue d'aronde*, or swallow's tail, that is, narrowing, or drawing close at the gorge, and opening at the head.

BONNET, in the sea-language, denotes an addition to a sail: thus they say, lace on the bonnet, or shake off the bonnet.

BONNEVILLE, a town of Savoy, situated on the north side of the river Arve, about twenty miles south-east of Geneva, in 6° 10′ east longitude, and 46° 18′ north latitude.

BONNY, among miners, a bed of ore, differing only from a squat as being round, whereas the squat is flat. See the article SQUAT.

BONTIA, in botany, a genus of the didynamia-angiospermia class of plants: the flower consists of a single petal, the upper lip of which is erect and emarginated, and the lower lip bent back; the fruit is a large drupe, of an oval figure, containing only a single seed.

BONZES, indian priests, who, in order to distinguish themselves from the laity, wear a chaplet round their necks, consisting of an hundred beads, and carry a staff, at the end of which is a wooden bird; they live upon the alms of the people, and yet are very charitably disposed, maintaining several orphans and widows out of their own collections. The tonquinese have a pagod, or temple, in each town, and every pagod has at least two bonzes belonging to it; some have thirty or forty. The bonzes of China are the priests of the fohists, or sects of Fohi; and it is one of their established tenets, that there are rewards allotted for the righteous, and punishments for the wicked, in the other world; and that there are various mansions, in which the souls of men will reside, according to their different degrees of merit. The bonzes of Pegu are, generally, gentlemen of the highest extraction.

BOOK, *liber*, the composition of a man of wit or learning, designed to communicate somewhat he has invented, experienced, or collected, to the public, and thence to posterity; being withal of a competent length to make a volume.

In this sense, a book is distinguished from a pamphlet, by its greater length; and from a tome or volume, by its containing the whole writing. According to the antients, a book differed from an epistle, not only in bulk, but in that the latter was folded, and the former rolled up; not but that there are divers antient books now extant, under the names of epistles.

Origin of BOOKS. We have nothing that is clear on that subject. The books of Moses are doubtless the oldest books now extant; but there were books before those of Moses, since he cites several. Scipio Sgambati, and others, even talk of books before the deluge, written by the patriarchs Adam, Seth, Enos, Cainan, Enoch, Methusalem, Lamech, Noah and his wife; also by Ham, Japhet and his wife; besides others by dæmons or angels; of all which some moderns have found enough to fill an antediluvian library: but they appear all either the dreams of idle writers, or the impostures of fraudulent ones. A book of Enoch is even cited in the Epistle of Jude, ver. 10 and 15. from which some endeavour to prove the reality of the antediluvian writings; but the book cited by that apostle is generally allowed, both by antient and modern writers, to be spurious.

Of profane books, the oldeſt extant are Homer's poems, which were ſo even in the time of Sixtus Empiricus; though we find mention in greek writers of ſeventy others prior to Homer, as Hermes, Orpheus, Daphne, Horus, Linus, Muſæus, Palamedes, Zoroaſter, &c. but of the greater part of theſe there is not the leaſt fragment remaining; and of others, the pieces which go under their names are generally held, by the learned, to be ſuppoſititious. F. Hardouin goes farther, charging all the antient books, both greek and latin, except Cicero, Pliny, Virgil's Georgics, Horace's Satires and Epiſtles, Herodotus, and Homer, to be ſpurious, and forged in the XIIIth century, by a club of perſons, under the direction of one Severus Arcontius. Among the Greeks, it is to be obſerved, the oldeſt books were in verſe, which was prior to proſe: Herodotus's Hiſtory is the oldeſt book extant of the proſaic kind.

Materials of BOOKS. Several ſorts of materials were uſed formerly in making books: plates of lead, and copper, the barks of trees, bricks, ſtone, and wood were the firſt materials employed to engrave ſuch things upon, as men were willing to have tranſmitted to poſterity. Joſephus ſpeaks of two columns, the one of ſtone, the other of brick, on which the children of Seth wrote their inventions and aſtronomical diſcoveries: Porphyry makes mention of ſome pillars, preſerved in Crete, on which the ceremonies, practiſed by the Corybantes in their ſacrifices, were recorded: Heſiod's works were originally written upon tables of lead, and depoſited in the temple of the Muſes, in Bœotia: the ten commandments, delivered to Moſes, were written upon ſtone; and Solon's laws, upon wooden planks. Tables of wood, box, and ivory, were common among the antients: when of wood, they were frequently covered with wax, that people might write on them with more eaſe, or blot out what they had written. The leaves of the palm-tree were afterwards uſed inſtead of wooden planks, and the fineſt and thinneſt part of the bark of ſuch trees, as the lime, the aſh, the mapple, and the elm; from hence comes the word *liber*, which ſignifies the inner bark of the trees; and as theſe barks were rolled up, in order to be removed with greater eaſe, theſe rolls were called *volumen*, a volume; a name afterwards given to the like rolls of paper, or parchment.

Thus we find books were firſt written on ſtones, witneſs the decalogue given to Moſes: then on the parts of plants, as leaves chiefly of the palm-tree; the rind and bark, eſpecially of the tilia, or phillyrea, and the egyptian papyrus. By degrees wax, then leather, were introduced, eſpecially the ſkins of goats and ſheep, of which at length parchment was prepared: then lead came into uſe; alſo linen, ſilk, horn, and, laſtly, paper itſelf.

Form of BOOKS. The firſt books were in the form of blocks and tables: but as flexible matter came to be wrote on, they found it more convenient to make their books in the form of rolls: theſe were compoſed of ſeveral ſheets, faſtened to each other, and rolled upon a ſtick, or *umbilicus*; the whole making a kind of column, or cylinder, which was to be managed by the umbilicus as a handle, it being reputed a crime to take hold of the roll itſelf: the outſide of the volume was called *frons*; the ends of the umbilicus, *cornua*, horns, which were uſually carved, and adorned with ſilver, ivory, or even gold and precious ſtones: the title, σύλλαβος, was ſtruck on the outſide; the whole volume, when extended, might make a yard and a half wide, and fifty long. The form which obtains among us is the ſquare, compoſed of ſeparate leaves; which was alſo known, though little uſed, by the antients.

To the form of books belongs alſo the internal œconomy, as the order and arrangement of points and letters into lines and pages, with margins and other appurtenances: this has undergone many varieties; at firſt the letters were only divided into lines, then into ſeparate words, which, by degrees, were noted with accents, and diſtributed, by points and ſtops, into periods, paragraphs, chapters, and other diviſions. In ſome countries, as among the orientals, the lines began from the right and ran leftward; in others, as the northern and weſtern nations, from left to right; others, as the Greeks, followed both directions, alternately going in the one, and returning in the other, called *bouſtrophedon*: in moſt countries the lines run from one ſide to the other: in ſome, particularly the Chineſe, from top to bottom. Again, in ſome the page is entire and uniform, in others, divided into columns; in others, diſtin-

distinguished into text and notes, either marginal, or at the bottom; usually it is furnished with signatures, and catch-words; sometimes also with a register, to discover whether the book is complete. To these are added the apparatus of summaries or side-notes, the embellishments of red, gold, or initial letters, head-pieces, tail-pieces, effigies, schemes, maps, and the like. The end of the book, now denoted by FINIS, was anciently marked with this character ▽, called *cornis*: there also occur certain formulas at the beginnings and endings of books; the one to exhort the reader to be courageous, and proceed to the following books; the others were conclusions, often guarded with imprecations against such as should falsify them.

Uses of BOOKS. It is certain, that books make one of the chief instruments of acquiring knowledge; they are the repositories of the law, and vehicles of learning of every kind; our religion itself is founded on books, and without them, says Bartholin, God is silent, justice dormant, physic at a stand, philosophy lame, letters dumb, and all things involved in cimmerian darkness. The eulogia which have been bestowed upon books are infinite: they are represented as the refuge of truth, which is banished out of conversation: as standing counsellors and preachers, always at hand, and always disinterested; having this advantage over all instructions, that they are ready to repeat their lesson as often as we please. Books supply the want of masters, and even, in some measure, the want of genius and invention, and can raise the dullest persons, who have memory, above the level of the greatest geniuses, if destitute of their help. Perhaps their greatest glory is the affection borne them by many of the greatest men of all ages. M. Cato, the elder Pliny, the emperor Julian, and others, are on record for their great devotion to books: the last has perpetuated his passion by some Greek epigrams in their praise. Richard Bury, bishop of Durham, and lord-chancellor of England, has an express treatise on the love of books.

Bad effects objected to BOOKS. On the other hand it is said, that they employ too much of our time and attention, engage us in pursuits of no use to the commonwealth, and indispose us for the functions of civil life; that they render many lazy, and prevent their exerting their own talents, by furnishing them, on every occasion, with things of the growth of others; and that our natural lights become weakened and extinguished by inuring ourselves only to see with foreign lights: besides, that all men are thereby furnished with means of imposing on the people, and propagating superstition, immorality, enthusiasm, or irreligion, which will always spread faster, and be received more greedily than lessons of truth and virtue.

Art of writing or composing BOOKS. To this end we have much fewer helps and instructions, than for the art of speaking; though the former be the more difficult of the two, as a reader is not so easy to be imposed on, but has better opportunities of detecting frauds than a hearer. A great cardinal, indeed, reduces an author's business to a few heads, were they but as easily practised as prescribed: let him consider who it is writes, what, how, why, and to whom. To write a good book, an interesting subject must be chosen, which is to be long and closely meditated on; and of the sentiments that offer themselves, those which are already commonly known are to be rejected; few or no digressions from the main point are to be allowed; quotations rarely made, and then only to prove some important truth, or embellish the subject with some beautiful and uncommon observations, never bringing an antient philosopher on the stage, to say what the meanest lacquey could have said as well; nor making a sermon, unless the business be to preach.

Marks of good BOOKS. These are, according to Selden, solidity, perspicuity, and brevity. The first will be attained by keeping the piece long by us, often reviewing and correcting it, by the advice of friends: the second, by disposing the sentiments in a due order, and delivering them under proper and usual expressions: the third, by rejecting every thing that does not immediately concern the subject.

To judge of a BOOK. Those who have treated of the subject, direct us to observe the title, the author's or editor's name, the number of editions, the place where, and the year when it was printed; proceed then to the preface, and look for the author's design, and the occasion of his writing; consider also his country (each nation having its peculiar genius) and the person by whose order he wrote: if his life be annexed to it, run it over, and note

his profeſſion, and what rank he was of, what is remarkable in his education, ſtudies, converſation, &c. If the preface does not give an account of the method of the work, run briefly over the order and diſpoſition of it, and note what points the author has handled.

Foreign BOOKS. All foreign bound books pay duty on importation 14 s. for every 112 lb. As to unbound books, they are commonly entered by the hundred weight, and pay, if French, 13 s. 6$\frac{42}{100}$d. but if from any other country, only 7 s. 7$\frac{20}{100}$ d. It is alſo to be obſerved, that all popiſh books are prohibited to be imported; as are all engliſh books printed abroad, unleſs with the conſent of the proprietor of the copy.

Common-place BOOK. See COMMON-PLACE BOOK.

Text-BOOK. See the article TEXT.

BOOKS, in a mercantile ſenſe, the ſeveral regiſters wherein merchants and other dealers keep their accounts.

Merchants books are kept either ſingle, or according to the method of double entry. They who keep them in the former method, have occaſion for few books, as a journal, or day-book; and a ledger, or poſt book: the former to write all the articles following each other as they occur in the courſe of their buſineſs; and the other to draw out the accounts of all the debtors and creditors on the journal. This method is only proper for retail dealers, or at leaſt for traders who have but very little buſineſs: but as for wholeſale dealers and great merchants, who keep their books according to the double entry, or italian method, as is now moſt commonly done, their buſineſs requires ſeveral other books, the uſefulneſs of which will be ſeen from what follows.

The moſt conſiderable books, according to the method of double entry, are the waſte-book, the journal, and the ledger; but beſides theſe three, which are abſolutely neceſſary, there are ſeveral others, to the number of thirteen, or even more, called ſubſervient or auxiliary books, which are uſed in proportion to the buſineſs a man has, or to the nature of the buſineſs a man carries on. Theſe books are the caſh-book, the debt-book, the book of numeros, the book of invoices, the book of accounts current, the book of commiſſions, orders, or advices, &c.

The waſte-BOOK may be defined a regiſter, containing an inventory of a merchant's effects, and debts, with a diſtinct record of all his tranſactions and dealings, in a way of trade, related in a plain ſimple ſtile, and in order of time as they ſucceed one another.

The waſte-book opens with the inventory, which conſiſts of two parts; firſt, the effects, that is, the money a merchant has by him, the goods he has in hand, his part of ſhips, houſes, farms, &c. with the debts due to him; the ſecond part of the inventory is the debts due by him to others: the difference between which, and the effects, is what the merchants call neat ſtock. When a man begins the world, and firſt ſets up to trade, the inventory is to be gathered from a ſurvey of the particulars that make up his real eſtate; but ever after is to be collected from the ballance of his old books, and carried to the new.

After the inventory is fairly related in the waſte-book, the tranſactions of trade come next to be entered down; which is a daily taſk to be performed as they occur. The narrative ought to exhibit tranſactions with all the circumſtances neceſſary to be known, and no more. It ſhould contain the names of perſons with whom the merchant deals upon truſt, the conditions of bargains, the terms of payment, the quantity, quality, and prices of goods, with every thing that ſerves to make the record diſtinct, and nothing elſe. The waſte-book, if no ſubſidiary books are kept, ſhould contain a record of all the merchant's tranſactions and dealings in a way of trade; and that not only of ſuch as are properly and purely mercantile, but of every occurrence that affects his ſtock, ſo as to impair or increaſe it, ſuch as private expences, ſervants fees, houſe-rents, money gained, &c.

The journal, or day-BOOK, is the book wherein the tranſactions recorded in the waſte-book are prepared to be carried to the ledger, by having their proper debtors and creditors aſcertained and pointed out; whence it may be obſerved, that the great deſign of the journal is to prevent errors in the ledger: again, after the ledger is filled up, the journal facilitates the work required in reviſing and correcting it; for firſt the waſte-book and journal are compared, and then the journal and ledger; whereas to reviſe the ledger immediately from the waſte-book, would be a matter of no leſs difficulty, than to form it without the help of a journal: laſtly, the jour-

journal is designed as a fair record of a merchant's business, for neither of the other two books can serve this purpose; not the ledger, by reason of the order that obtains in it, and also on account of its brevity, being little more than a large index: nor can the waste-book answer this design, as it can neither be fair nor uniform, nor very accurate, being commonly written by different hands, and in time of business. Hence it is, that in case of differences between a merchant and his dealers, the journal is the book commonly called for, and inspected by a civil judge.

In the journal, persons and things are charged debtors to other persons and things as creditors; and in this it agrees with the ledger, where the same stile is used, but differs from it as to forms and order; so that it agrees with the waste-book in those very things where it differs from the ledger; and on the other hand, it agrees with the latter, in the very point wherein it differs from the former: but in order to state the comparison betwixt the waste-book and journal, we shall turn two or three examples of the waste-book into a journal form.

WASTE-BOOK.

				l.	s.	d.
July 1st.						
Bought of William Pope 40 yards of black cloth, at 14 s. per yard, payable in three months,				28	00	00
Bought of James Sloan 100 yards of shalloon, at 10 d. per yard.	l.	s.	d.			
Whereof paid,	02	00	00			
Rest due, at two months,	02	03	04			
				4	03	04
4th.						
Sold William Pope four pipes of port wine, at 27 l. 10 s. per pipe.	l.	s.	d.			
Whereof received,	55	00	00			
Rest due, on demand,	55	00	00			
				110	00	00

JOURNAL.

				l.	s.	d.
July 1st.						
BLACK CLOTH Dr. to WILLIAM POPE, 28 l. For 40 yards, at 14 s. per yard, payable in three months,				28	00	00
SHALLOON Dr. to SUNDRIES, 4 l. 3 s. 4 d.	l.	s.	d.			
To Cash paid in part for 100 yards, at 10 d. per yard,	02	00	00			
To J. Sloan, for the rest, due at two months,	02	03	04			
				4	03	04
4th.						
SUNDRIES Drs. to PORT WINE, 110 l.	l.	s.	d.			
Cash, received in part for four pipes, at 27 l. 10s. per pipe,	55	00	00			
William Pope, for the rest on demand,	55	00	00			
				110	00	00

It may be here observed, that every case or example of the waste-book, when entered into the journal, is called a journal post, or entrance; thus the examples above, make three direct posts. Again, a post is either simple or complex: a simple post, is that which has but one debtor, and one creditor, as the first of these above; a complex post, is either when one debtor is ballanced by one or more creditors, as in the second post; or when two or more debtors are balanced

lanced by one creditor, as in the third poft ; or when feveral debtors are balanced by feveral creditors; and then the poft is faid to be complex in both terms. This being premifed, the following rules are to be obferved for writing in the journal.

1. In a fimple poft, the debtor is to be exprefsly mentioned, then the creditor, and laftly the fum, all in one line ; after which, the narrative, or reafon of the entry, in one or more lines, as in the firft of thefe three pofts above.

2. In a complex poft, the feveral debtors, or creditors, are expreffed in the firft line, by themfelves, with their refpective fums fubjoined to them, which are to be added up, and their total carried to the money columns, as in the fecond and third pofts.

3. The debtors and creditors fhould be written in a large letter, or text hand, both for ornament and diftinction.

Before we proceed to explain the ledger, we fhall previoufly inquire into the nature and ufe of the terms debtor and creditor, as the whole art of book-keeping entirely depends on a true idea of thofe terms, the nature and ufe of which will be obvious from the following confiderations.

Accounts in the ledger confift of two parts, which in their own nature are directly oppofed to, and the reverfe of one another, which are therefore fet fronting one another, and on oppofite fides of the fame folio. Thus all the articles of the money received, go to the left fide of the cafh account ; and all the articles or fums laid out, are carried to the right. In like manner, the purchafe of goods is pofted to the left fide of the accounts of the faid goods, and the fale or difpofal of them to the right.

Tranfactions of trade or cafes of the wafte-book, are alfo made up of two parts, which belong to different accounts, and to oppofite fides of the ledger, *e.g.* If goods are bought for ready money, the two parts are the goods received, and the money delivered; the former of which goes to the left fide of the account of the faid goods, and the latter to the right fide of the cafh account.

The two parts in any cafe in the wafte-book, when pofted to the journal, are denominated the one the debtor, the other the creditor of that poft ; and when carried from thence to the ledger, the debtor, or debtor part, is entered upon the left fide (hence called the debtor fide) of its own account, where it is charged debtor to the creditor part : again, the creditor, or creditor part, is pofted to the right fide or creditor fide of its account, and made creditor by the debtor part. Hence italian book-keeping is faid to be a method of keeping accounts by double entry, becaufe every fingle cafe of the wafte-book, requires at leaft two entrances in the ledger, *viz.* one for the debtor, and another for the creditor.

From what has been faid, it is evident that the terms debtor and creditor, are nothing elfe but marks or characteriftics ftamped upon the different parts of tranfactions in the journal, expreffing the relation of thefe parts to one another, and fhewing to which fide of their refpective accounts in the ledger they are to be carried.

Having thus far explained the meaning of the terms debtor and creditor, we fhall now proceed to the ledger, or principal book of accounts.

Of the ledger. The ledger is the principal book wherein all the feveral articles of each particular account, that lie fcattered in other books, according to their dates, are collected, and placed together in fpaces allotted for them, in fuch a manner, that the oppofite parts of every account, are directly fet fronting one another, on oppofite fides of the fame folio.

The ledger's folios are divided into fpaces for containing the accounts, on the head of which are written the titles of the accounts, marked Dr. on the left hand page, and Cr. on the right : below which ftand the articles, with the word *To* prefixed on the Dr. fide, and the word *By* on the Cr. fide ; and upon the margin are recorded the dates of the articles, in two fmall columns allotted for that purpofe. The money columns are the fame as in other books : before them ftand the folio column, which contains figures, directing to the folio where the correfponding ledger-entrance of each article is made ; for every thing is twice entered in the ledger, *viz.* on the Dr. fide of one account, and again on the Cr. fide of fome other account ; fo that the figures mutually refer from the one to the other, and are of ufe in examining the ledger. Befides thefe columns, there muft be kept in all accounts, where number, meafure, weight, or diftinction of coins is confidered,

ed, inner columns, to insert the quantity; and for the ready finding any account in the ledger, it has an alphabet, or index, wherein are written the titles of all accounts, with the number of the folio where they stand.

How the ledger is filled up from the journal.

1. Turn to the index, and see whether the Dr. of the journal-post, to be transported, be written there; if not, insert it under its proper letter, with the number of the folio to which it is to be carried.

2. Having distinguished the Dr. and the Cr. sides, as already directed, recording the dates, complete the entry in one line, by giving a short hint of the nature and terms of the transaction, carrying the sum to the money columns, and inserting the quantity, if it be an account of goods, *&c.* in the inner columns, and the referring figure in the folio column.

3. Turn next to the Cr. of the journal-post, and proceed in the same manner with it, both in the index and ledger; with this difference only, that the entry is to be made on the Cr. side, and the word *By* prefixed to it.

4. The post being thus entered in the ledger, return to the journal, and on the margin mark the folios of the accounts, with the folio of the Dr. above, and the folio of the Cr. below, and a small line between them thus $\frac{2}{4}$. These marginal numbers of the journal, are a kind of index to the ledger, and are of use in examining the books, and on other occasions.

5. In opening the accounts in the ledger, follow the order of the journal; that is, beginning with the first journal-post, allow the first space in the ledger for the Dr. of it, the next for the Cr. the third for the Dr. of the following post, if it be not the same with some of those already opened, and so on till the whole journal be transported; and supposing that, thro' inadvertency, some former space has been allowed too large, you are not to go back to subdivide it, in order to erect another account in it.

Tho' these rules are formed for simple posts, where there is but one Dr. and one Cr. yet they may be easily applied to complex ones.

As examples, how articles are to be entered in the ledger, take the two accounts of Cash and William Pope, so far as mentioned in the above waste-book and journal.

1751		Cash Dr.	Fo.	l.	s.	d.	1751		Contra Cr.	Fo.	l.	s.	d.
July	4	To port wine, received in part for four pipes, at 27 l. 10 s. per pipe,	6	55	00	00	July	1	By shalloon, paid in part for 100 yards, at 10 d. per yard,	12	2	00	00
		Wil. Pope Dr.							Contra Cr.				
July	4	To port-wine, as per journal,	6	55	00	00	July	1	By black cloth, for 40 yards, at 14 s. per yard,	3	28	00	00

Cash-Book. This is the most important of the auxiliary books. It is so called, because it contains, in debtor and creditor, all the cash that comes in, and goes out of a merchant's stock. The receipts on the debtor's side; the persons of whom it was received, on what, and on whose account, and in what specie; and the payments, on the creditor's side; mentioning also the specie, the reasons of the payments, to whom, and for what account they are made.

Book *of debts, or payments*, is a book in which is written down the day on which all sums become due, either to be received or paid, by bills of exchange, notes of hand, merchandizes bought or sold, or otherwise. By comparing receipts and payments, one may, in time, provide the necessary funds for payments, by getting the bills, notes, *&c.* due to be paid, or by taking other precautions.

Book *of numero's, or wares.* This book is kept in order, to know easily all the mer-

merchandizes that are lodged in the warehouſe, thoſe that are taken out of it, and thoſe that remain therein.

BOOK *of invoices*. This book is kept to preſerve the journal from eraſures, which are unavoidable in drawing up the accounts of invoices of the ſeveral merchandizes received, ſent out, or ſold; wherein one is obliged to enter very minute particulars. It is alſo deſigned to render thoſe invoices eaſier to find than they can be in the waſte-book, or journal.

BOOK *of accounts current*. This book ſerves to draw up the accounts which are to be ſent to correſpondents, in order to ſettle them in concert, before they are ballanced in the ledger; it is properly a duplicate of the accounts current, which is kept to have recourſe to occaſionally.

The other mercantile books generally in uſe are, the book of commiſſions, orders, or advices; the book of acceptances of bills of exchange; the book of remittances; the book of expences; the copy-book of letters; the book of poſtage; the ſhip-books, and the book of workmen. To theſe may be added others, which depend on the greater or leſſer accuracy of the merchants and bankers, and on the ſeveral kinds of trade carried on by particular dealers.

BOOK-BINDING, the art of gathering and ſewing together the ſheets of a book, and covering it with a back, *&c.* It is performed thus: the leaves are firſt folded with a folding-ſtick, and laid over each other in the order of the ſignature; then beaten on a ſtone with a hammer, to make them ſmooth, and open well, and afterwards preſſed. While in the preſs they are ſewed upon bands, which are pieces of cord or packthread; ſix bands to a folio book, five to a quarto, octavo, *&c.* which is done by drawing a thread thro' the middle of each ſheet, and giving it a turn round each band, beginning with the firſt, and proceeding to the laſt. After this the books are glued, and the bands open and ſcraped, for the better fixing the paſte-boards; the back is turned with a hammer, and the book fixed in a preſs between two boards, in in order to make a groove for fixing the paſte-boards; theſe being applied, holes are made for fixing them to the book, which is preſſed a third time. Then the book is at laſt put to the cutting-preſs, betwixt two boards, the one lying even with the preſs, for the knife to run upon, the other above it, for the knife to run againſt: after which the paſte-boards are ſquared.

The next operation is the ſprinkling the leaves of the book, which is done by dipping a bruſh into vermilion and ſap-green, holding the bruſh in one hand, and ſpreading the hair with the other; by which motion the edges of the leaves are ſprinkled in a regular manner, without any ſpots being bigger than the others.

Then remains the covers, which are either of calf-ſkin, or of ſheep-ſkin; theſe being moiſtened in water, are cut out to the ſize of the book, then ſmeared over with paſte, made of wheat flour, and afterwards ſtretched over the paſte-board, on the outſide, and doubled over the edges withinſide; after having firſt taken off the four angles, and indented and platted the cover at the head-band: which done, the book is covered, and bound firmly between two bands, and then ſet to dry. Afterwards it is waſhed over with a little paſte and water, and then ſprinkled fine with a bruſh, unleſs it ſhould be marbled; when the ſpots are to be made larger, by mixing the ink with vitriol. After this the book is glazed twice, with the white of an egg beaten, and at laſt poliſhed with a poliſhing-iron paſſed hot over the glazed cover.

BOOK-KEEPING, an art teaching how to record and diſpoſe the accounts of buſineſs, ſo as the true ſtate of every part, and of the whole, may be eaſily and diſtinctly known. See the article BOOKS, in a mercantile ſenſe.

BOOKSELLER, one who trades in books, whether he prints them himſelf, or gives them to be printed by others.

Bookſellers are in many places ranked among the members of univerſities, and entitled to the privilege of ſtudents, as at Tubingen, Saliſburg, and Paris, where they have always been diſtinguiſhed from the vulgar and mechanical traders, and exempted from divers taxes and impoſitions laid upon other companies.

The traffic of books was antiently very inconſiderable, in ſo much, that the book-merchants both of England, France, and Spain, and other countries, were diſtinguiſhed by the appellation of ſtationers, as having no ſhops, but only ſtalls and ſtands in the ſtreets. During this ſtate, the

the civil magiſtrates took little notice of the bookſellers, leaving the government of them to the univerſities, to whom they were ſuppoſed more immediate retainers; who accordingly gave them laws and regulations, fixed prices on their books, examined their correctneſs, and puniſhed them at diſcretion.

But when, by the invention of printing, books and bookſellers began to multiply, it became a matter of more conſequence, and the ſovereigns took the direction of them into their own hands; giving them new ſtatutes, appointing officers to fix prices, and grant licences, privileges, &c.

Authors frequently complain of the arts of bookſellers. Lord Shaftſbury gives us the proceſs of a literary controverſy blown up by bookſellers. The publication of books depend much on the taſte and diſpoſition of bookſellers.

Among the german writers, we find perpetual complaints of the difficulty of procuring bookſellers: many are forced to travel to the book fairs at Frankfort or Leipſic, to find bookſellers to undertake the impreſſion of their works.

BOOKING, among merchants, the making an entry of any thing in a journal. See the articles BOOK and JOURNAL.

BOOM, in the ſea-language, a long piece of timber with which the clue of the ſtudding-ſail is ſpread out; and ſometimes the boom is uſed to ſpread or boom out the clue of the mainmaſt.

Boom-ſpars, imported from the britiſh plantations, are free; if from Ireland, Aſia, or Africa, they pay 6 s. 5 d. the hundred; and if from elſewhere, 9 s. 6½d.

BOOM denotes alſo a cable ſtretched athwart the mouth of a river or harbour; with yards, top-maſts, battling or ſpars of wood laſhed to it, to prevent an enemy's coming in.

BOOMING, among ſailors, denotes the application of a boom to the ſails.

A ſhip is ſaid to come booming forwards, when ſhe comes with all the ſail ſhe can make.

BOOPHTHALMUS, a kind of agat with large circles in it, bearing ſome reſemblance to an ox's eye, from whence it has got this name.

BOOPS, in ichthyology, the ſparus, with four parallel, longitudinal, gold and ſilver-coloured lines on each ſide.

It is a large and beautiful fiſh, eſpecially its eyes; from whence it has got the name of boops. There are nineteen rays in the pinna ani, and the pectoral fins are red. See plate XXIX. fig. 3. and the article SPARUS.

BOOT, a well-known cover for the leg, made of leather.

Hunting boots are made of thinner leather than ordinary, as the fiſhing ones are of a ſtrong thick kind, fit to hold out water.

Jack-BOOTS, a very ſtrong kind, worn by troopers.

BOOT-TREE, or BOOT-LAST, an inſtrument uſed by ſhoe-makers to widen the leg of a boot. It is a wooden cylinder ſlit into two parts, between which, when it is put into the boot, they drive by main force a wedge or quoin.

BOOTES, a conſtellation of the northern hemiſphere, conſiſting of 23 ſtars, according to Ptolemy's catalogue, of 28 in Tycho's, of 34 in Bayer's, of 52 in Hevelius's, and of 45 in Mr. Flamſtead's catalogue.

BOOTY, whatever is taken from an enemy in time of war. By the law of Moſes, the booty taken from the enemy, was to be divided equally between thoſe who were in the battle and the reſt of the people. And Moſes adds, "Ye ſhall "likewiſe ſeparate the Lord's ſhare, "which ye ſhall take out of the whole "booty belonging to the men of war." The rabbins pretend, that under the kings of Iſrael, another rule was followed in the diſtribution of the ſpoil. 1. Every thing was given to the king which belonged to the conquered king, his tent, ſlaves, cattle, &c. After this the reſt of the booty was divided into two equal parts, of which the king had one moiety, and the other was diſtributed among the ſoldiers who were in the action, and thoſe who continued in the camp.

Among the Greeks, the booty was divided equally, a ſhare being reſerved for their gods. By the military diſcipline of the Romans, the booty belonged to the republic, and the generals ordered it all to be carried to the public treaſury. Sometimes, indeed, it was diſtributed among the ſoldiers, as a reward of their bravery, and in order to animate them in future actions.

BOPPART, a town of the electorate of Triers, ſituated on the weſt ſhore of the Rhine, about eight miles ſouth of Coblentz: eaſt longitude 7° 10′, north latitude 50° 20′.

BOQUINIANS, in church-hiſtory, a ſect of heretics,

heretics, ſo called from Boquinus their founder, who taught that Chriſt did not die for all mankind, but only for the faithful, and conſequently was only a particular ſaviour.

BORAK, a fabulous animal, ſaid to be of a middle nature between an aſs and a mule, and to have carried Mahomet in his aerial journies from Jeruſalem into heaven.

BORASSUS, in botany, a genus of plants, the characters of which are not ſo well aſcertained as to reduce it to any claſs. The male flowers have the corolla divided into three oval hollow ſegments reſembling petals; and the female flowers have it divided into three round ſmall permanent ſegments. The fruit is a roundiſh, obtuſe, rigid, unilocular berry, containing three oval, compreſſed, diſtinct and filamentoſe ſeeds.

BORAX, in natural hiſtory, a native ſalt found in a fluid form, ſuſpended in certain waters, and diſcovered in them by a ſweetiſh mixed with a brackiſh and bitter taſte; readily ſeparable from them by evaporation, and appearing, when ſeparated, in a ſolid, bright, and tranſparent form, and in large, regularly figured bodies, affording, on a nice ſolution and evaporation, octohaedral cryſtals.

In ſeveral parts of the dominions of the great Mogul, in Perſia, and in ſome parts of Tartary, and other places in the eaſt, there ouzes out of the ſides of hills, which contain metals, and particularly copper, a thick turbid water, of a bluiſh grey colour, and of a brackiſh bitter, and very diſagreeable taſte. This, where it runs in ſufficient quantity, is generally taken care of for uſe, being directed in its courſe into wide and ſhallow pits, lined with a ſtiff clay: in theſe it is left expoſed to the ſun, in order to evaporate; but the people who have the care of it, daily mix among it, the grey fine mud left in its paſſage; and when it is brought to the conſiſtence of a ſoft pap, they throw into it, in the middle of a hot day, a large quantity of ſome animal fat melted over the fire. This is all well ſtired together, and then covered with ſticks and branches of trees; and over theſe is thrown a cruſt of any common clay. Thus it is left till perfectly dried up; then the covering is taken off, and the whole ſifted to ſeparate the earth and dirt, and in the ſieves is found, what is ſent to us under the name of rough borax; which is in rude irregular maſſes, but ſomewhat approaching to a priſmatic figure, very foul, earthy and fattiſh, of a duſky greeniſh colour, and having a particularly rank and diſagreeable ſmell.

This is afterwards refined for uſe, by diſſolving it ſeveral times in large quantities, and cryſtalizing it while the liquor is hot and kept cloſe covered from the air; and finally, being diſſolved in a lixivium of quick-lime and potaſhes, and cryſtalized in the ſame manner, it is what we call refined borax.

It requires two and twenty times its own weight of water to diſſolve it perfectly. Expoſed to the fire, it ſwells and bliſters, and after it has ſtood on the fire ſome time, ſubſides into a fine white gloſſy ſubſtance, which is with difficulty ſoluble in water. It vitrifies all earths and ſtones mixed with it, and expoſed to a proper degree of heat; and is of great uſe in ſoldering metals, particularly gold. The antients uſed for this laſt purpoſe, a green arenaceous ſubſtance, which, from its uſe, they called *chryſocolla*, or gold ſolder; and the moderns have from this ſimilar uſe of borax, called it by the ſame name. See the article CHRYSOCOLLA.

Borax makes no efferveſcence either with acids or alkalies, and yields nothing by diſtillation but an inſipid phlegm. Its uſe in ſoldering of gold and other metals, is well known; alſo in metallurgy, as a flux; in the remelting the ſmall maſſes of gold and ſilver that are the produce of aſſays: for by rubbing it over the veſſels theſe are to be melted in, it fills up all their little cavities, and leaves not the leaſt roughneſs on the ſurface, to detain any of the melted metal: it is uſed by the dyers alſo, to give a gloſs to ſilks; and, in Italy, the ladies uſe it as a coſmetic: with us, it is in no ſmall repute as a promoter of the menſes and delivery; the powder, kept as a ſecret by ſome of our women midwives, being a compoſition whereof borax is the baſis, and the only efficacious medicine. It is alſo uſed in making Glauber's ſalt.

BORBONIA, in botany, a genus of the diadelphia-decandria claſs of plants, the flower of which is pentapetalous, papilionaceous, and hairy on the outſide; the fruit is a roundiſh acuminated pod, with one cell, containing one ſeed in the ſhape of a kidney.

BORBORITES, *borboritæ*, in church-hiſtory,

ftory, a fect of gnoftics, in the fecond century, who, befides embracing the errors of thefe heretics, denied the laft judgment.

Their name comes from βορβορος, filth, on account of a cuftom they had of daubing their faces and bodies with dirt and filth.

BORCH, a town of lower Saxony, in Germany, about fourteen miles north-eaft of Magdeburg; eaft longitude 12° 14′, north lat. 52° 25′.

BORCHLOEN, or LOOTS, a town of the bifhopric of Liege, in Germany, about fifteen miles north weft of the city of Liege; eaft longitude 5° 30′, north latitude 50° 50′.

BORDER, in gardening, is made to inclofe parterres, that they may not be injured in walking in them.

Borders are made either circular, ftrait, or in cants; and are turned into knots, fcrols, volutes, and other compartiments. They are rendered very ornamental by the flowers, fhrubs, yews, &c, that are raifed in them. They are always laid with a fharp rifing in the middle; becaufe if they are flat, they are no ways agreeable to the eye: and as for their breadth, the largeft are allowed five or fix feet, and the leffer commonly four. There are four forts, 1. Thofe continued about parterres, without any interruption. 2. Thofe cut into compartiments and convenient diftances by fmall paffages; thefe two are raifed in the middle, and adorned with flowers and fhrubs. 3. Even and flat ones, without flowers. And, 4. Quite plain borders, only fanded, as in parterres of orangery.

BORDER, or BORDURE, in heraldry. See the article BORDURE.

BORDERS alfo denote the leaves ftanding about the middle thrum of a flower.

BORD-FREE. See the article FREE.

BORD-HALFPENNY, a fmall toll, by cuftom paid to the lord of the town for fetting up boards, tables, booths, &c. in fairs and markets.

BORD-LANDS, the demefnes which lords keep in their hands for the maintenance of their board or table.

BORD-LODE, a fervice required of tenants to carry timber out of the woods of the lord to his houfe. It is alfo ufed to fignify the quantity of provifion which the bordarii or bordmen paid for their bord-lands.

BORD-SERVICE, the tenure of bord-lands, by which fome lands in certain places are held of the bifhop of London, and the tenants now pay fix-pence *per* acre, in lieu of finding provifion antiently for their lord's table.

BORDURE, in heraldry, a cutting off from within the efcutcheon all round it about $\frac{1}{5}$ of the field, ferving as a difference in a coat of arms, to diftinguifh families of the fame name, or perfons bearing the fame coat. See plate XXIX. fig. 5.

If the line conftituting the bordure be ftrait, and the bordure be plain, then in blazoning you muft only name the colour of the bordure.

Bordures are fometimes ingrailed, gobonated, invicted, &c. See the articles INGRAILED, &c.

If the bordure be charged with any part of plants or flowers, the term is verdoy of trefoils, or whatever flower it be. If it confifts of ermins, vairy, or any of the furs, they fay purflew of ermins, &c. If the bordure be charged with martlets, the word is charged with an enalyron of martlets, &c.

Bordures are fymbols of protection, favour and reward, and as fuch kings beftow them on thofe they have a value for.

BORE, among engineers, denotes the diameter of the barrel of a gun or cannon, or rather its whole cavity.

Square BORE, among mechanics, a fquare piece of well-tempered fteel, fitted into a handle, ferving to widen holes, and make them perfectly round.

BOREA, in natural hiftory, the name whereby the antients called the bluifh, green, fofter, and dull jafper. See the article JASPER.

This ftone is generally accounted of the malachites kind, but improperly, as it is much fofter than that; and fome have imagined the variety of this fpecies to be the turquoife of the moderns, but erroneoufly. It is confiderably heavy, and though but moderately hard, is yet capable of a very elegant polifh.

BOREAL, in a general fenfe, fomething relating to the north. Thus,

BOREAL SIGNS, in aftronomy, are the firft fix figns of the zodiac, or thofe northwards of the equinoctial.

Aurora-BOREALIS. See the article AURORA.

BOREAS, a Greek name, now in common ufe for the north wind.

Pezron obferves, that antiently boreas fignified the north-eaft wind, blowing at the time of the fummer folftice. Boreas is reprefented in painting like an old man with

with a horrible look, his hair and beard covered with snow or hoar frost, with the feet and tail of a serpent.

BORGO DE ST. SEPULCHRO, a town of Tuscany, about fifty miles east of Florence, near the head of the Tiber; east longitude 13°, and north latitude 43° 30′.

BORGO DE VAL DE TARO, a town of Italy, in the dutchy of Parma, about twenty miles south-west of that city; east longitude 10° 36′, north latitude 44° 35′.

BORGO-FORTE, a town of the Mantuan, in Italy, situated at the confluence of the rivers Po and Menzo, about eight miles south of Mantua; east longitude 11°, north latitude 44° 50′.

BORGO ST. DONINO, a city of Italy, in the dutchy of Parma, about ten miles north-west of that city; east longitude 10° 31′, north latitude 44° 50′.

BORIA, a city of Arragon, in Spain, about thirty-five miles north-west of Saragossa: west longitude 2°, and north latitude 41° 40′.

BORING, in a general sense, the art of perforating, or making a hole through any solid body.

BORING *of water pipes.* See the article PIPE.

BORING, in farriery, an operation in use for the cure of wrenched shoulders in horses. It is this: having cut a hole in the skin, over the part affected, they blow it up with a tobacco-pipe, as a butcher does a shoulder of veal; after which they thrust a cold flat iron, like the point of a sword-blade, eight or ten inches up between the shoulder-blade and the ribs: this they call boring.

BORING, in mineralogy, a method of piercing the earth with scooping irons, which, being drawn back at proper times, bring up with them samples of the different strata through which they have passed; by the examination of which the skilful mineralist will be able to guess whereabouts a vein of ore may lie, or whether it will be worth while to open a mine there or no.

BORIQUE, one of the Caribbee-Islands, lying south-east of Porto Rico, in 64° 30′ west longitude, and 18° north latitude.

BORMIO, a territory of the Grisons, in Italy, having the dominions of Venice on the south.

BORNE, a market-town in Lincolnshire, about thirty miles south of the city of Lincoln; west longitude 20′, and north latitude 52° 40′.

BORNEO, a large island in the indian ocean, situated between 107° and 117° east longitude, and between 7° 30′ north latitude, and 4° south latitude. Its figure is almost round, and computed to be two thousand five hundred miles in circumference, and, consequently, containing a greater number of square acres than any island in the known world.

BORNEO is also the name of the principal town of the above island; situated on a bay at the north-west part, in 111° 30′ east longitude, and 4° 30′ north latitude.

BORNHOLM, an island in the Baltic-sea, situated on the coast of Schonen, in Sweden, about forty-three miles north-east of the island of Rugen, in 15° east longitude, and 55° 15′ north latitude.

BOROUGH, BURROUGH, BOROW, or BURGH, in a general sense, signifies a town or a corporation, which is not a city. The word, in its original signification, is by some supposed to have meant a company, consisting of ten families, which were bound together as each other's pledge. Afterwards, as Verstegan has it, borough came to signify a town, having a wall or some kind of enclosure round it. And all places that in old times had the name of borough, it is said, were fortified, or fenced in some shape or other. Borough is a place of safety and privilege: and some are called free burghs, and the tradesmen in them free burgesses, from a freedom they had granted to them originally, to buy and sell without disturbance, and exempt from toll.

BOROUGH is now particularly appropriated to such towns or villages as send burgesses or representatives to parliament, whether they be incorporated or not. They are distinguished into those by charter or statute, and those by prescription or custom: the number in England is one hundred and forty-nine, some of which send one, but the most of them two representatives.

Royal BOROUGHS, in Scotland, are corporations made for the advantage of trade, by charters granted by several of their kings, having the privilege of sending commissioners to represent them in parliament, besides other peculiar immunities. They form a body of themselves, and send commissioners each to an annual convention at Edinburgh, to consult the benefit of trade, and their general interest.

BOROUGH-ENGLISH, a customary descent of lands or tenements, in certain places, by which they descend to the youngest in-

instead of the eldest son; or, if the owner have no issue, to the younger instead of the elder brother. This custom goes with the land, although there be a devise or feoffment at the common law to the contrary. The reason of this custom, says Littleton, is, because the youngest is presumed, in law, to be least able to provide for himself.

BOROUGH-HEAD, or HEADBOROUGH, called also borough-holder, or bursholder, the chief man of the *decenna*, or hundred, chosen to speak and act in behalf of the rest.

Headborough also signifies a kind of head constable, where there are several chosen as his assistants, to serve warrants, *&c.* See the article CONSTABLE.

Law-BOROUGHS, or BURROWS, in the law of Scotland, denotes binding to the peace. See the article PEACE.

BOROUGH-BRIDGE, a town in the north-riding of Yorkshire, about fifteen miles north-west of York; west longitude 1° 15′, and north latitude 54° 10′.

BORRAGE, *borrago*. See the next article.

BORRAGO, *borrage*, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of a single petal of the length of the cup, and divided into five segments: there is no pericarpium, but the cup grows larger and inflated, and contains four seeds of a roundish figure, rugose, carinated outwardly from the point, globose at the base, and inserted into a hollow receptacle. See plate XXIX. fig. 6. The leaves of borrage are accounted cordial, and good in removing faintness; for which reason the tops are frequently put into wine and cool tankards. Boerhaave recommends the expressed juice in all inflammatory diseases. The flowers are one of the four cordial flowers. The only officinal preparation is the conserve of the flowers.

BORRELLISTS, in church-history, a christian sect in Holland. They are a kind of anabaptists, but they have some very particular opinions. They reject the use of churches, of the sacraments, public prayer, and all other external acts of worship. They assert, that all the christian churches of the world have degenerated from the pure apostolical doctrines, because they have suffered the word of God, which is infallible, to be expounded, or rather corrupted, by doctors, who are not infallible. They lead a very austere life, and employ a great part of their goods in alms.

BOS, the OX, in zoology, a genus of quadrupeds, of the order of the *pecora*, the characters of which are, that the horns are hollow and turned forward, bent like crescents, and smooth on the surface: the fore teeth are eight in number, and there are no canine teeth.

Of this genus authors enumerate the following species, *viz.* 1. The common tame kind. 2. The *bonasus*. 3. The *bison*, or the *bos* with a very long mane, and a gibbose back; being a robust and fierce animal, equal in size to the common bull, and a native of America. It is also called *bos camelita*. 4. The *bubalus*. See the articles OX, BONASUS, *&c.*

BOSA, or BOSSA, a town of Sardinia, situated on its western coast, at the mouth of a river of the same name; east longit. 8° 30′, and north latitude 40° 15′.

BOSCAGE, the same with a grove, or thicket.

BOSCAGE, in a law sense, is that food which trees yield to cattle, as mast, *&c.* But Manwood says, to be quit of boscage, is to be discharged of paying any duty for wind-fall wood in the forest.

BOSCAGE, among painters, denotes a landscape representing much wood and trees.

BOSEA, in botany, a genus of plants, belonging to the pentandria-digynia class. There is no corolla: the fruit is a globose berry, with one cell, containing a single acuminated seed.

BOSNA-SERAJO, the capital of the province of Bosnia; east longitude 19°, and north latitude 44°.

BOSNIA, a frontier province of christendom, divided between the house of Austria and the Turks; that part of it lying eastward of the river Unna, belonging to the Turks; and the rest of it, lying westward of that river, to the Austrians.

BOSPHORUS, in geography, denotes, in general, a narrow sea, or channel, separating two continents, and serving as a communication between two seas.

Bosphorus is more particularly used for the straits of Constantinople, which divide Europe from Asia.

This was the original bosphorus; so called because oxen could swim over it: and from the resemblance between it and the streights of Kaffa, these last were antiently called the cimmerian, as the former were the thracian bosphorus.

BOSQUETS, in gardening, groves so called from *boschetto*, an italian word, which signifies a little wood. They are compartments in gardens, formed by the branches

branches of trees, difpofed either regularly in rows, or wildly and irregularly, according to the fancy of the owner. A bofquet is either a plot of ground inclofed with palifades of horn-beam, the middle of it being filled with tall trees, as elm or the like, the tops of which make a tuft or plume; or it confifts of only high trees, as horfe-chefnut, elm, *&c.* The ground fhould be kept very fmooth and rolled, or elfe covered with grafs, after the manner of the green-plots. In planting bofquets, care fhould be taken to mix the trees which produce their leaves of different fhapes, and various fhades of green, and hoary or meally leaves, fo as to afford an agreeable profpect. Bofquets are only proper for fpacious gardens, and require a great expence to keep them up.

BOSSAGE, in architecture, a term ufed for any ftone that has a projecture, and is laid rough in a building, to be afterwards carved into mouldings, capitals, coats of arms, *&c.*

Boffage is alfo that which is otherwife called ruftic work, and confifts of ftones which advance beyond the naked, or level, of the building, by reafon of indentures or channels left in the joinings. Thefe are chiefly ufed in the corners of edifices, and thence called ruftic quoins. The cavities or indentures are fometimes round, fometimes chain-framed, or bevelled, fometimes in a diamond form, and fometimes inclofed with a cavetto, and fometimes with a liftel.

BOSSINEY, a borough-town of Cornwall, fituated on the Irifh channel, about fifteen miles north-weft of Launcefton: weft longitude 5°, and north latitude 50° 40′.

It fends two members to parliament.

BOSSORA, or BASSORA, a large port-town of afiatic Turky, in the province of Eyraca Arabic; fituated on the weftern fhore of the river Euphrates, about forty miles north-weft of the gulph of Perfia, or Boffora: eaft longitude 47°, and north latitude 30°.

BOSSUPT, a town of Brabant, in the auftrian Netherlands, about eight miles fouth of Louvain; eaft longitude 4° 30′, and north latitude 50° 52′.

BOSTANGIS, in the turkifh affairs, perfons employed in the garden of the feraglio, out of whofe number are collected thofe who are to row in the grand fignior's brigantines, when he has a mind to divert himfelf with fifhing, or take the air upon the canal. They who row on the left hand are only capable of mean employments in the gardens; but they who row on the right hand may be promoted to the charge of boftangi-bafchi, who has the general intendancy of all the grand fignior's gardens, and commands above ten thoufand boftangis.

BOSTON, a port-town of Lincolnfhire, fituated near the mouth of the river Witham, about twenty-fix miles fouth-eaft of Lincoln; eaft longitude 15′, and north latitude 53°.

BOSTON is alfo the name of the capital of New-England, fituated on a peninfula, at the bottom of a fine bay, covered with fmall iflands and rocks, and defended by a caftle and platform of guns; weft longitude 71°, and north latitude 42° 24′. It is a flourifhing town, wherein are ten churches, fix of them belonging to independents. The number of its inhabitants are computed to be about fourteen thoufand.

BOSWORTH, a market-town of Leicefterfhire, fituated about eleven miles fouth-weft of Leicefter: weft longitude 1° 15′, and north latitude 52° 45′.

BOTANIST, a perfon fkilled in botany, and confequently capable of affigning to every plant its proper characters and name. See the next article.

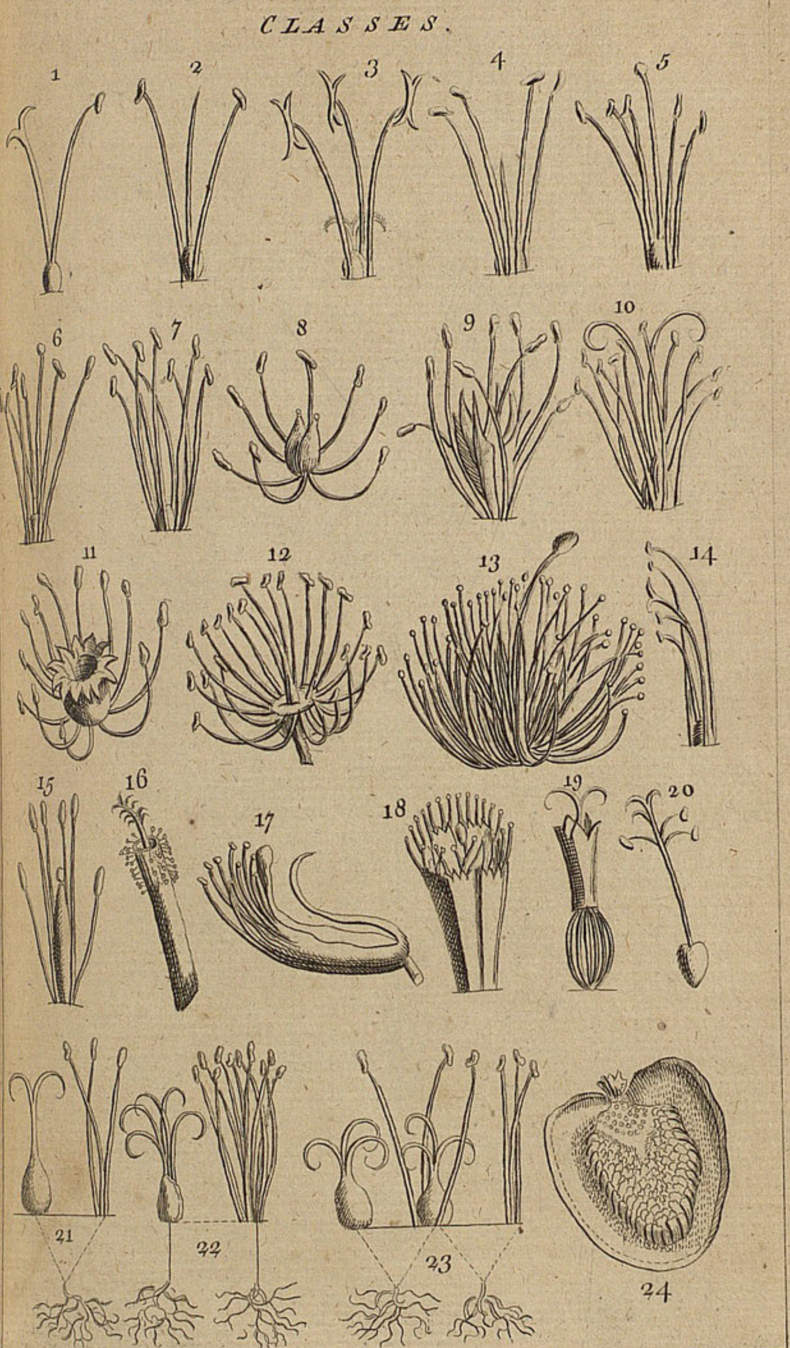
BOTANY, that branch of natural hiftory, which treats of plants, their claffes, fubdivifions, various genera, and fpecies.

In this fenfe botany differs from phytology and pharmacy, which treat of the generation, ftructure, medicinal and other ufes of plants; as alfo from agriculture, and gardening, which comprehend their culture and propagation. See the articles AGRICULTURE, *&c.*

The fcience of botany is differently explained by different authors; but the two fyftems of Tournefort and Linnæus more efpecially deferve our confideration.

We fhall begin with the latter, as being that which we have followed in the botanical part of this dictionary. It is to be obferved, then, that Linnæus has eftablifhed an entirely new fyftem of botany, founded on the number and different ftructure obfervable in the male and female parts of generation of each plant; the former of which is called ftamen, or ftamina, when there are more than one of them; and the latter piftil. See the articles STAMINA and PISTIL.

From the number and fituation of the ftamina,



T. Jefferys sculp.



T. Jefferys sculp.

mina, he has arranged the whole family of plants under twenty-four claſſes, *viz.* 1. The *monandria.* 2. *Diandria.* 3. *Triandria.* 4. *Tetrandria.* 5. *Pentandria.* 6. *Hexandria.* 7. *Heptandria.* 8. *Octandria.* 9. *Enneandria.* 10. *Decandria.* 11. *Dodecandria.* 12. *Icoſandria.* 13. *Polyandria.* 14. *Didynamia.* 15. *Tetradynamia.* 16. *Monadelphia.* 17. *Diadelphia.* 18. *Polyadelphia.* 19. *Syngeneſia.* 20. *Gynandria.* 21. *Monoecia.* 22. *Dioecia.* 23. *Polygamia.* 24. *Cryptogamia.* See the articles MONANDRIA, DIANDRIA, *&c.*

See plate XXX. where 1. repreſents claſs 1; 2, claſs 2; and ſo of the reſt.

Theſe are the general claſſes of plants, eſtabliſhed by that excellent botaniſt; who farther ſubdivides them into orders, which he denominates *monogynia, digynia, trigynia, &c.* from the number of piſtils, or female parts of generation, found in each plant. See the articles MONOGYNIA, DIGYNIA, TRIGYNIA, *&c.*

The ſame celebrated naturaliſt has likewiſe diſtributed the vegetable part of the creation into different orders, from the form and ſtructure of the calyx, or cup, of their flowers: but as this has no connection with the method laid down, we muſt refer the reader to his Genera Plantarum, where they will find it explained; as alſo to the article CALYX.

Having thus briefly explained the ſyſtem of Linnæus, we come to that of Tournefort, which is founded on the different ſtructure and diſpoſition, obſervable in the flowers, or, more ſtrictly ſpeaking, the flower-leaves of plants.

According to Tournefort, therefore, all plants are ranged under one or other of the following claſſes, *viz.* 1. Plants with monopetalous, campaniform, or bell-faſhioned flowers. 2. Thoſe with monopetalous, infundibuliform, or funnel-like flowers. 3. Plants with anomalous monopetalous flowers. 4. Plants with polypetalous labiated flowers. 5. Plants with polypetalous cruciform flowers. 6. Plants with polypetalous roſaceous flowers. 7. Plants with polypetalous, roſaceous, and umbellated flowers. 8. Plants with caryophyllous, or pink-like flowers. 9. Plants with liliaceous, or lily-like flowers. 10. Plants with polypetalous papilionaceous flowers. 11. Plants with polypetalous anomalous flowers. 12. Plants with floſculous flowers. 13. Plants with ſemifloſculous flowers. 14. Plants with radiated flowers. 15. Plants with ſtamineous flowers. 16. Plants without flowers, but having viſible ſeeds. 17. Plants with neither viſible flowers nor ſeeds. 18. Trees with apetalous flowers. 19. Trees with apetalous amentaceous flowers. 20. Trees with monopetalous flowers. 21. Trees with roſaceous flowers. 22. Trees with papilionaceous flowers. The deſcription of each of which ſee under their ſeveral heads MONOPETALOUS, CAMPANIFORM, *&c.*

See plate XXXI. where 1 repreſents claſs 1; 2, claſs 2. and ſo of the reſt.

BOTARGO, a kind of ſauſage, made with the eggs, and blood of the ſea-mullet, a large fiſh, common in the Mediterranean. The beſt kind comes from Tunis, in Barbary: it muſt be choſen dry and reddiſh. The people of Provence uſe a great deal of it, the common way of eating it being with olive oil and lemon juice. There is alſo a great conſumption of botargo throughout all the Levant.

Botargo pays on importation $2\frac{87}{100}$d. the pound; whereof $2\frac{58}{100}$d. is repaid on exportation.

BOTE, *bota,* in our old law-books, ſignifies recompence or amends: thus man-bote, is a compenſation for a man ſlain. There are likewiſe houſe-bote and plough-bote privileges to tenants, of cutting wood for making ploughs, repairing tenements, and likewiſe for fuel.

BOTELESS, or BOOTLESS, is when an offender was ſaid to be without emendation, when no favour can acquit him; as in the caſe of ſacrilege.

BOTHNIA, the name of two provinces in Sweden, diſtinguiſhed by the epithets eaſt and weſt, and lying on each ſide the bothnic gulph, which takes its name from them.

BOTTLE, a veſſel proper to contain liquors, made of leather, glaſs, or ſtone. See the articles GLASS and POTTERY.

There are bottles of boiled leather which are made and ſold by the caſe-makers. Thoſe among the antient Hebrews were generally made of goat-ſkin, with the hair on the inſide, well pitched and ſewed together; the mouth of the bottle was through the animal's paw that furniſhed the matter of it.

There are now in uſe bottles of fine glaſs which are commonly covered with ozier, and others of thick glaſs which are not covered. Formerly all thoſe bottles made in

in France held exactly a pint Paris meaſure, or about a quart of our Engliſh wine meaſure; but ſince the tavern-keepers ſell moſt of their wine in ſuch bottles, notwithſtanding an ordonnance to the contrary, that one would think the glaſsmakers had entered into an agreement with them, not to make any bottles that hold the full meaſure, there are none but what hold leſs, and ſome conſiderably ſo.

In commerce, bottles of earth or ſtone pay 11$\frac{55}{100}$d. each dozen, on importation; whereof 10$\frac{12}{100}$d. is repaid on exporting them. Glaſs bottles covered with wicker, pay 6s. 7$\frac{95}{100}$d. the dozen; whereof 6s. 2$\frac{25}{100}$d. is repaid on exporting them. Glaſs bottles covered with leather, pay 1l. 9s. 11$\frac{77}{100}$d. the dozen; whereof 1l. 7s. 10$\frac{12}{100}$d. is repaid on exporting them. Glaſs bottles uncovered, pay 1s. 5$\frac{98}{100}$d. the dozen; 1s. 4$\frac{70}{100}$d. being repaid on exporting them. Bottles made of flint glaſs, pay 8d. for each pound weight; and thoſe made of green glaſs only 2d. for each pound weight. Bottles made of wood, called ſucking bottles, pay by the groſs, or twelve dozen, 1s. 11$\frac{10}{100}$d; whereof 1s. 8$\frac{25}{100}$d. is repaid on exporting them.

BOTTLING *of beer*. See the article BEER.

BOTTOM, in a general ſenſe, denotes the loweſt part of a thing, in contradiſtinction to the top, or uppermoſt part.

BOTTOM, in navigation, is uſed to denote as well the channel of rivers and harbours, as the body or hull of a ſhip: thus, in the former ſenſe, we ſay, a gravelly bottom, clayey bottom, ſandy-bottom, *&c.* and in the latter ſenſe, a britiſh bottom, a dutch bottom, *&c.*

By ſtatute, certain commodities imported in foreign bottoms, pay a duty called petty cuſtoms, over and above what they are liable to, if imported in britiſh bottoms.

BOTTOMRY, in commerce, a marine contract for the borrowing of money upon the keel or bottom of a ſhip; that is to ſay, when the maſter of a ſhip binds the ſhip itſelf, that if the money be not paid by the time appointed, the creditor ſhall have the ſaid ſhip.

BOTTOMRY is alſo where a perſon lends money to a merchant, who wants it in traffic, and the lender is to be paid a greater ſum at the return of the ſhip, ſtanding to the hazard of the voyage. On which account, though the intereſt be greater than what the law commonly allows, yet it is not uſury, becauſe the money being furniſhed at the lender's hazard, if the ſhip periſhes, he ſhares in the loſs.

It is enacted by 19 Geo. II. cap. xxxvii. that after Auguſt 1, 1746. every ſum of money lent on bottomry, upon the ſhips of any ſubjects to or from the Eaſt-Indies, ſhall be lent only on the ſhip, or the merchandizes laden on board her, and ſo expreſſed in the condition of the bond; and the benefit of ſalvage ſhall be granted to the lender, his agents, *&c.* who only ſhall have a right to make aſſurance on the money lent: and no borrower of money on bottomry ſhall recover more on any aſſurance, than the value of his intereſt on the ſhip, or effects, excluſive of the money borrowed. And if the value of his intereſt doth not amount to the money borrowed, he ſhall be reſponſible to the lender for the ſurplus, with lawful intereſt for the ſame, together with the aſſurance, and all charges whatſoever, *&c.* notwithſtanding the ſhip and merchandize ſhall be totally loſt.

There is a fictitious way of taking up money, in the nature of bottomry, upon ſuppoſition of a ſhip and maſter, when, indeed, there is no ſuch ſhip or maſter in being; the condition reciting, if that ſhip (naming her) ſhall not arrive at ſuch a place, within twelve months, the money agreed on to be paid, ſhall be paid; but if the ſhip ſhall arrive, then nothing is to be paid. This unjuſtifiable method of raiſing money is a common practice among the Italians; and, it is to be feared, has been too frequently uſed by ſome perſons on this ſide the water.

BOTTONY. A croſs bottony, in heraldry, terminates at each end in three buds, knots, or buttons, reſembling, in ſome meaſure, the three-leaved graſs; on which account Segoin, in his Treſor Heraldique, terms it *croix trefflee*. It is the badge of the order of St. Maurice. See plate XXXII. fig. 1.

BOTWAR, a town of Wirtemberg, in the circle of Swabia, in Germany, ſituated about fifteen miles ſouth-eaſt of Hailbron; eaſt longitude 9° 15′, and north latitude 49°.

BOVA, a town of the kingdom of Naples, in Italy, about twenty miles ſouth-eaſt of Reggio; eaſt longitude 16° 15′, and north latitude 38° 20′.

BOUCHAIN, a fortified town of Hainalt, in the french Netherlands, about ſeven miles north of Cambray; eaſt longitude 3° 15′, and north latitude 50° 30′.

BOUCHE *of court*, the privilege of having meat and drink at court, ſcot-free. This privilege is ſometimes only extended to bread, bear, and wine; and was antiently in uſe as well in the houſes of noblemen as in the king's court.

BOUGH denotes much the ſame with branch. See the article BRANCH.

BOUILLON, a ſtrong town with a caſtle, about three leagues from Sedan, on the river Semoy: it is capital of a dutchy of the ſame name, ſituated between the dutchy of Luxemburg and biſhopric of Liege; eaſt longitude 5°, and north latitude 49° 49′.

BOUILLON, in the manege, a lump or excreſcence of fleſh, that grows either upon, or juſt by, the fruſh, inſomuch that the fruſh ſhoots out, juſt like a lump of fleſh, and makes the horſe halt; and this we call the fleſh blowing upon the fruſh. Manege horſes, that never wet their feet, are ſubject to theſe excreſcences, which make them very lame.

BOVINO, a ſmall city of the Capitanate, in the kingdom of Naples, about ſixty miles eaſt of the city of Naples; eaſt longit. 16° 15′, and north latit. 41°.

BOULDER-WALL, a kind of wall built of round flints or pebbles, laid in a ſtrong mortar, and uſed where the ſea has a beach caſt up, or where there are plenty of flints.

BOULTINE, a term which workmen uſe for a moulding, the convexity of which is juſt one fourth of a circle, being the member next below the plinth in the tuſcan and doric capital.

BOUNCE, in ichthyology, a name uſed for the browniſh variegated ſqualus, with the pinna ani in the middle, between the anus and tail. This fiſh rarely grows to more than three feet in length, and is but moderately thick in proportion. See the article SQUALUS.

BOUND MASONRY, HIDE-BOUND, HOOF-BOUND. See the articles MASONRY, HIDE, HOOF.

BOUNTY, in commerce, a premium paid by the government to the exporters of certain britiſh commodities, as gold and ſilver lace, ſilk ſtockings, fiſh, corn, &c. the rate of all which will be ſpecified under the articles LACE, FISH, CORN, &c. The happy influence which bounties have on trade and manufactures is well known: nor can there be a more convincing proof of the good intentions of the government under which we live, than the great care that is taken to give all poſſible encouragement, to thoſe who ſhall eſtabliſh, or improve any hazardous branch of trade.

BOURBON, or MASCARENHA, an iſland in the indian ocean, about one hundred miles eaſt of Madagaſcar, and ſubject to France; eaſt longitude 54°, and ſouth latitude 21°.

BOURBON-ARCHEBAUT, the capital of the dutchy of Bourbon, in the Lyonois, in France; eaſt longitude 3° 10′, and north latitude 46° 35′.

BOURDEAUX, the capital of all Guienne and Gaſcony, ſituated on the river Garonne, in 40′ weſt longitude, and 44° 50′ north latitude.

BOURG, the capital of the iſland of Cayenne, a french colony on the coaſt of Guiana, in ſouth America; weſt longitude 52°, and north latitude 5°.

BOURG-EN-BRESS, the capital of Breſſe, in the province of Burgundy, in France, thirty-ſix miles weſt of Geneva, and thirty-two north of Lyons; eaſt longitude 5° 5′, and north latitude 46° 20′.

BOURGES, the capital of the territory of Berry, in the Orleanois, in France, ſituated about fifteen miles ſouth-eaſt of Orleans; eaſt longitude 2° 30′, and north latitude 47° 10′.

BOURGET, a town of Savoy, ſix miles north of Chamberry; eaſt longitude 5° 55′, and north latitude 45° 45′.

BOURIGNONISTS, the name of a ſect among the low country proteſtants, being ſuch as follow the doctrine of Antoinette Bourignon, a native of Liſle, and apoſtate of the roman catholic religion.

The principles of this ſect bear a very near reſemblance, with thoſe of the quietiſts, quakers, or fanatics. They conduct themſelves by pretended revelations.

BOURO, an iſland in the indian ocean, ſubject to the Dutch; eaſt longitude 124°, and ſouth latitude 3° 30′.

BOUTANT, or ARCH-BOUTANT, in architecture, a flat arch or part of an arch, abutting againſt the reins of a vault, to prevent its giving way.

A pillar BOUTANT is a large chain or pile of ſtone, made to ſupport a wall, terrace, or vault.

BOUTE, in the manege. A horſe is called bouté, when his legs are in a ſtraight line from the knee to the coronet: ſhort-

jointed horfes are apt to be bouté; and, on the other hand, long-jointed horfes are not.

BOUTON, an ifland in the indian ocean; eaft longitude 121° 30′, and lying between 4° and 5° fouth latitude.

BOUTS-RIMEZ, in french poetry, a term fignifying certain rhymes difpofed in order, and given to a poet, together with a fubject, to be filled up with verfes ending in the fame word and fame order. In choofing the rhymes, it is ufual to fix on fuch as feem the remoteft, and have the leaft connection. Some authors fancy, that thefe rhymes are, of all others, the eafieft, that they affift the invention, and furnifh new thoughts.

BOW, *arcus*, a weapon of offence made of fteel, wood, horn, or other elaftic matter, which, after being bent by means of a ftring faftened to its two ends, in returning to its natural ftate, throws out an arrow with prodigious force.

The ufe of the bow is, without all doubt, of the earlieft antiquity. It has likewife been the moft univerfal of all weapons, having obtained amongft the moft barbarous and remote people, who had the leaft communication with the reft of mankind.

The figure of the bow is pretty much the fame in all countries, where it has been ufed; for it has generally two inflexions or bendings, between which, in the place where the arrow is drawn, is a right line. The grecian bow was in the fhape of a Σ, of which form we meet with many, and generally adorned with gold or filver. The fcythian bow was diftinguifhed from the bows of Greece and other nations by its incurvation, which was fo great, as to form an half moon or femicircle.

The matter of which bows were made, as well as their fize, differed in different countries. The Perfians had very great bows made of reeds; and the Indians had alfo, not only arrows, but bows made of the reeds or canes of that country; the lycian bows were made of the cornel tree; and thofe of the Æthiopians, which furpaffed all others in magnitude, were made of the palm-tree.

Though it does not appear that the Romans made ufe of bows in the infancy of their republic, yet they afterwards admitted them as hoftile weapons, and employed auxiliary archers in all their wars.

In drawing the bow, the primitive Grecians did not pull back their hand towards their right ear, according to the fafhion of modern ages, and of the antient Perfians, but placing their bow directly before them, returned their hand upon their right breaft. This was alfo the cuftom of the Amazons.

The bow is a weapon of offence amongft the inhabitants of Afia, Africa, and America, at this day; and in Europe, before the invention of fire arms, a part of the infantry were armed with bows. Lewis XI. firft abolifhed the ufe of them in France, introducing, in their place, the halbard, pike, and broad fword. The long bow was formerly in great vogue in England, and many laws were made to encourage the ufe of it. The parliament under Henry VIII. complained of the difufe of long bows, heretofore the fafeguard and defence of this kingdom, and the dread and terror of its enemies.

BOW is alfo an inftrument formerly ufed at fea for taking the fun's altitude; confifting of a large arch of ninety degrees graduated, a fhank or ftaff, a fhade vane, a fight vane, and an horizon vane. It is now out of ufe.

BOW, among builders, a beam of wood or brafs, with three long fcrews, that direct a lath of wood or fteel to any arch; chiefly ufed in drawing draughts of fhips, and projections of the fphere; or wherever it is requifite to draw large arches.

BOW, in mufic, an inftrument, which, being drawn over the ftrings of a mufical inftrument, makes it refound. It is compofed of a fmall ftick, to which are faftened eighty or an hundred horfe hairs, and a fcrew which ferves to give thefe hairs the proper tenfion. In order that the bow may touch the ftrings brifkly, it is ufual to rub the hairs with rofin.

BOW, among artificers, an inftrument fo called from its figure; in ufe among gunfmiths, lockfmiths, watch-makers, &c. for making a drill go. Among turners, it is the name of that pole fixed to the ceiling, to which they faften the cord that whirls round the piece to be turned.

BOW-STAVES, imported from the britifh plantations, are free; if from Ireland, Afia, or Africa, they pay 15s. $4\frac{80}{100}$d. for every 120; and if from any other country, 1 l. 2 s. $10\frac{80}{100}$ d. for the fame number.

BOWS *of a faddle* are two pieces of wood laid archwife to receive the upper part of a horfe's back, to give the faddle its due

due form, and to keep it tight. The fore bow, which ſuſtains the pommel, is compoſed of the withers, the breaſts, the points or toes, and the corking. See the article WITHERS, &c.

The hind bow bears the trouſequin or quilted roll. The bows are covered with ſinews, that is with bulls pizzles beaten, and ſo run all over the bows to make them ſtronger. Then they are ſtrengthened with bands of iron to keep them tight, and on the lower ſide, are nailed on the ſaddle ſtraps, with which they make faſt the girths.

BOW *of a ſhip*, that part of her head which is contained between the ſtern and the after-part of the fore-caſtle, on either ſide; ſo that a ſhip hath two bows, the ſtarboard and the larboard, or, as they are ſometimes called, the weather and the lee bow.

If a ſhip have a broad round bow, they call it a bold bow. If ſhe has a narrow thin bow, they ſay ſhe has a lean bow.

BOW-LINE. See the article BOWLING.

BOW-PIECES, are the pieces of ordinance at the bow of a ſhip.

Rain-BOW. See the article RAIN-BOW.

BOW-BEARER, an inferior officer of the foreſt, who is ſworn to make inquiſition of all treſpaſſes againſt vert or veniſon, and to attack offenders.

BOWE, a market-town of Devonſhire, about twelve miles north-weſt of Exeter: weſt longitude 4°, and north latitude 50° 45'.

BOWELS, in anatomy, the ſame with inteſtines. See the article INTESTINES.

BOWER, in gardening, a place under covert of trees, differing only from an arbour, as being round or ſquare, and made with a kind of dome or ceiling at top; whereas the arbour is always built long and arched.

BOWER, in the ſea-language, the name of an anchor carried at the bow of a ſhip. There are generally two bowers, called firſt and ſecond, great and little, or beſt and ſmall bower. See the article ANCHOR.

Lady's-BOWER, or *Virgin's*-BOWER, in botany, the engliſh name of the clematis. See the article CLEMATIS.

BOWL denotes either a ball of wood, for the uſe of bowling; or a veſſel of capacity, wherein to hold liquors.

Bowls and buckets of wood, imported, pay a duty of $9\frac{1}{100}\frac{3}{0}$d. the dozen; whereof $8\frac{62}{100}$d. is repaid on exporting them.

BOWLING, the art of playing at bowls. The firſt thing to be obſerved in bowling is, the right chuſing your bowl, which muſt be ſuitable to the ground you deſign to run on. Thus, for cloſe alleys, the flat bowl is the beſt; for open grounds of advantage, the round byaſſed bowl; and for plain and level ſwards, the bowl that is as round as a ball. The next is to chuſe your ground; and laſtly to diſtinguiſh the riſings, fallings, and advantages of the places where you bowl.

BOWLING, or BOW-LINE, in a ſhip, a rope made faſt to the leech or middle part of the outſide of the ſail: it is faſtened by two, three or four ropes, like a crow's foot, to as many parts of the ſail; only the mizen bowling is faſtened to the lower end of the yard. This rope belongs to all ſails, except the ſprit-ſail and ſprit-top-ſail. The uſe of the bowling is to make the ſails ſtand ſharp or cloſe, or by a wind.

Sharp the bowling, is hale it taught, or pull it hard. Hale up the bowling, that is pull it harder forward on. Check or eaſe, or run up the bowling, that is let it be more ſlack.

BOWLING-BRIDLES are the ropes by which the bowling is faſtened to the leech of the ſail.

BOWLING-KNOT, a knot that will not ſlip, by which the bowling-bridle is faſtened to the crengles.

BOWLING-GREEN, a kind of parterre, laid with fine turf, deſigned for the exerciſe of bowling. See BOWLING.

BOWSE, in the ſea-language, ſignifies as much as to hale or pull. Thus bowſing upon a tack, is haling upon a tack. Bowſe away, that is pull away all together.

BOW-SPRIT, or BOLT-SPRIT, a kind of maſt, reſting ſlopewiſe on the head of the main ſtem, and having its lower end faſtened to the partners of the fore-maſt, and farther ſupported by the fore-ſtay. It carries the ſprit-ſail, ſprit-top-ſail, and jak-ſtaff; and its length is uſually the ſame with that of the fore-maſt.

BOWYERS, artificers, whoſe employment or occupation it is to make bows. There is a company of bowyers in the city of London, firſt incorporated in 1623.

BOX, in its moſt common acceptation, denotes a ſmall cheſt or coffer for holding things.

Fire-boxes or tinder-boxes pay, on importation, a duty of 3 s. $10\frac{20}{100}$d. the groſs; whereof 3 s. $4\frac{1}{2}$ d. is repaid on exportation. Wooden money-boxes pay

3 s.

3 s. $7\frac{8}{100}$d. the groſs; whereof 3 s. $2\frac{81}{100}$d. is repaid on exportation. Neſt-boxes pay 11 s. $6\frac{60}{100}$d. the groſs; whereof 10 s. $1\frac{1}{2}$d. is repaid. Pepper-boxes pay 4 s. $3\frac{97}{100}$ d. whereof 3 s. $\frac{56}{100}$ d. is repaid. French-boxes, for marmalade or jelly, pay each dozen 3 s. $\frac{55}{100}$d. whereof 1 s. $9\frac{76}{100}$d. is repaid. Sand-boxes pay 3 s. $10\frac{20}{100}$d. the groſs; whereof 3 s. $4\frac{1}{2}$d. is repaid. Snuff-boxes, if of wood, pay 2 s. $4\frac{72}{100}$d. the dozen; whereof 2 s. $1\frac{87}{100}$ d. is repaid: if of horn, they pay 4 s. $9\frac{45}{100}$d. the dozen; 4 s. $3\frac{75}{100}$d. being drawn back: if of ivory or tortoiſe-ſhell, they pay 9 s. $6\frac{90}{100}$ d. the dozen; whereof 8 s. $7\frac{1}{2}$d. is drawn back. Soap-boxes pay 7 s. $8\frac{40}{100}$d. the ſhock, containing ſixty boxes. Spice-boxes pay 1 s. $1\frac{86}{100}$d. the dozen. Tobacco-boxes pay 5 s. $9\frac{30}{100}$d. the groſs. Touch-boxes, covered with leather, pay only $6\frac{03}{100}$d. the dozen; but if the leather be the moſt valuable part, they pay 6 s. $11\frac{25}{100}$d. for every 20 s. value upon oath: if covered with velvet, they pay 2 s. $10\frac{65}{100}$d. the dozen: and if of iron, or other metal gilt, they pay 3 s. $10\frac{20}{100}$d. the dozen: in all which caſes, a proportionable draw-back is allowed.

Box is alſo uſed for an uncertain quantity or meaſure: thus a box of quick-ſilver contains from one to two hundred weight; a box of prunellas, only fourteen pounds; a box of rings for keys, two groſs, &c.

Box *of a plough*, the croſs piece in the head of a plough, which ſupports the two crow-ſtaves. See the article Plough.

Box, or Box-tree, in botany, the engliſh name of the *buxus*. See Buxus.

The turner, engraver, carver, mathematical inſtrument, comb, and pipe-makers, give a great price for this wood by weight, as well as by meaſure. It makes wheels or ſhivers, pins for blocks and pullies, pegs for muſical inſtruments, nut-crackers, weaver's ſhuttles, collar-ſticks, bump-ſticks and dreſſers for ſhoemakers, rulers, rolling-pins, peſtles, mall-balls, beetles, tops, tallies, cheſs-men, ſcrews, bobbins, cups, ſpoons, and the ſtrongeſt of all axle-trees.

BOXERS, a kind of athletæ, who combat or contend for victory with their fiſts, and amount to the ſame with what, among the Romans, were called *pugiles*.

The antient boxers battled with great force and fury, inſomuch as to daſh out each other's teeth, break bones, and often kill each other. The ſtrange disfigurements theſe boxers underwent were ſuch, that frequently they could not be known, and rendered them the object of many railleries. In the Greek anthology, there are four epigrams of the poet Lucilius, and one of Lucian; wherein their disfigurements are pleaſantly enough expoſed.

BOXING, the exerciſe of fighting with the fiſts, either naked, or with a ſtone or leaden ball graſped in them: in which ſenſe, boxing coincides with the ϖυγμαι of the Greeks, the *pugillatus* of the Romans, and what, on our amphitheatres, is ſometimes called trial of manhood. When the champions had σφαιραι, or balls, whether of lead or ſtone, it was properly denominated σφαιρομαχια.

The antient boxing differed from the *pugna cæſtuum*, in which the combatants had leathern thongs on their hands, and balls to offend their antagoniſts; though this diſtinction is frequently overlooked, and fighting with the cæſtus ranked as a part of the buſineſs of pugiles: in which view, we may diſtinguiſh three ſpecies of boxing; the firſt, where both the hands and the head were abſolutely naked, as is practiſed among us; the ſecond, where the hands were armed with ſpheræ, but the head naked; the third, where the head was armed with a kind of cap or cover, called *amphotides*, chiefly to defend the ears and temples, and the hands alſo furniſhed with cæſtuſes. Boxing is an antient exerciſe, having been in uſe in the heroic times, before the invention of iron or weapons. Thoſe who prepared themſelves for it, uſed all the means that could be contrived to render themſelves fat and fleſhy, that they might be better able to endure blows; whence corpulent men or women were uſually called *pugiles*, according to Terence; *Siqua eſt habitior paulo, pugilem eſſe aiunt*.

Boxing, among ſailors, is uſed to denote the rehearſing the ſeveral points of the compaſs in their proper order.

Boxing is alſo uſed for the tapping of a tree, to make it yield its juice. See the articles Bleeding, Sap, &c.

The boxing of maple is performed by making a hole with an ax or chiſſel into the ſide of the tree, about a foot from the ground; out of it flows a liquor from which ſugar is made.

BOXTEL, a town of dutch Brabant, ſituated on the river Bommel, about eight miles

miles south of Boisleduc, in east longitude 5° 16′, and north latitude 51° 30′.

BOXTHUDE, a town of the dutchy of Bremen, in Germany, about fifteen miles west of Hamburgh, subject to the elector of Hanover: east long. 9° 16′, and north latitude 53° 50′.

BOYAR, a term used for a grandee of Russia and Transylvania.

Becman says, that the boyars are the upper nobility; and adds, that the czar of Muscovy, in his diplomas, names the boyars before the way-wodes. See the article WAY-WODE.

BOYAU, in fortification, a ditch covered with a parapet, which serves as a communication between two trenches. It runs parallel to the works of the body of the place, and serves as a line of contravallation, not only to hinder the sallies of the besieged, but also to secure the miners. But when it is a particular cut that runs from the trenches to cover some spot of ground, it is drawn so as not to be enfiladed, or scoured by the shot from the town.

BOYES, idolatrous priests among the savages of Florida.

Every priest attends a particular idol, and the natives address themselves to the priest of that idol, to which they intend to pay their devotion.

The idol is invoked in hymns, and his usual offering is the smoke of tobacco.

BOYLE'S LECTURES, a course of sermons set on foot, in London, by the honourable Robert Boyle in 1691; the design of which is to prove the truth of the christian religion against infidels, without descending to any controversies among christians.

BOYNE, a river of Ireland, which taking its rise in Queen's county, in the province of Leinster, runs north-east by Trim and Cavan, and falls into the irish channel, a little below Drogheda.

B QUADRO, QUADRATO, or DURALE, in music, called by the French b quarre, from its figure ♮. This is what we call B natural or sharp, in distinction to B mol or flat. See FLATS and SHARP.

If the flat ♭ be placed before a note in the thorough bass, it intimates, that its third is to be minor; and if placed with any cypher over a note in the bass, as ♭6, or ♭5, &c. it denotes, that the fifth or sixth thereto are to be flat. But if the quadro ♮ be placed over any note, or with a cypher, in the thorough bass, it has the contrary effect; for thereby the note or interval thereto is raised to its natural order.

BRABANT, a large province of the Netherlands, lying eastward of Flanders: the greater part of it is subject to the house of Austria, the capital Brussels; and the rest to the Dutch, their capital Breda.

BRABEJUM, in botany, a genus of the tetrandria-monogynia class of plants, the flower of which consists of four linear obtuse petals in the lower part erect, and forming a kind of tube; in the upper turned backward. The fruit is a drupe of the drier kind, of an oval figure and hairy: the kernel is oval.

BRABEUTES, or BRABEUTA, βραβευτης, in antiquity, an officer among the Greeks, who presided at the public games, and decided controversies that happened among the antagonists in the gymnical exercises. The number of brabeutæ was not fixed: sometimes there was only one, but more commonly they amounted to nine or ten.

BRACCIANO, a town of St. Peter's patrimony, about twelve miles north of Rome, situated on the west side of a lake, to which it gives name: east longitude 13°, and north latitude 42°.

BRACE is commonly taken for a couple or pair, and applied by huntsmen to several beasts of game, as a brace of bucks, foxes, hares, &c.

BRACE, in architecture, a piece of timber framed in with bevil joints, the use of which is to keep the building from swerving either way. When the brace is framed into the king-pieces or principal rafters, it is by some called a strut.

BRACES, in the sea-language, are ropes belonging to all the yards of a ship, except the mizen, two to each yard, reeved through blocks that are fastened to pennants, seized to the yard-arms. Their use is either to square, or traverse the yards. Hence to brace the yard, is to bring it to either side. All braces come aftward on, as the main brace comes to the poop, the main-top-sail brace comes to the mizen-top, and thence to the main shrouds: the fore and fore-top-sail braces come down by the main and main-top-sail stays, and so of the rest. But the mizen-bowline serves to brace to the yard, and the cross-jack braces are brought forwards to the main-shrouds when the ship sails close by a wind.

BRACED, in heraldry, a term for the intermingling three chevronels. See plate XXXII. fig. 2.

BRACELET, an ornament worn on the wrist, much used among the antients: it was made of different materials, and in different fashions, according to the age and quality of the wearer.

Bracelets are still worn by the savages of Africa, who are so excessively fond of them, as to give the richest commodities, and even their fathers, wives, and children, in exchange for those made of no richer materials than shells, glass, beads, and the like.

Bracelets of glass pay 3 s. $8\frac{11}{100}$d. the small gross, containing twelve bundles or dickers; and, if of the french manufacture, they pay 4 s. $1\frac{26}{100}$d. for the same quantity: a proportionable draw-back is allowed in each case.

BRACHIÆUS, in anatomy, a name given to two muscles, which are flexors of the cubitus, and distinguished by the appellations of *externus* and *internus*.

The brachiæus *externus* rises tendinous with two heads; one of them, which is broader, has its origin from the coracoide process; the other, which is slender and longer, from the acetabulum of the scapula. This descends in the channel of the humerus under the ligament of the joint, becomes fleshy, and joins with the former; and after this, runs near the insertion of the deltoides in the anterior part of the arm, and ends partly by a round tendon, in the tubercle of the radius, a little below its upper head, and partly by a round tendon, in the common membrane, which surrounds all the muscles of the cubitus. This tendon is sometimes cut in bleeding, and very bad consequences attend the accident.

The brachiæus *internus* arises just below the end of the deltoides, and is inserted in the tubercle of the ulna, a little below its upper head.

BRACHIAL, in a general sense, denotes something belonging to the arm. See the article ARM.

BRACHIAL-NERVE. See the article NERVE.

BRACHIALIS is particularly used for a thick and broad muscle of the arm, lying between the shoulder-bone and the elbow; its fore-part being covered all the way by the two fleshy bodies of the biceps. See the article BICEPS.

BRACHIONUS, in zoology, the name given by Dr. Hill, to a genus of animalcules, called, in english, wheel-animals. See WHEEL-ANIMALS.

BRACHIUM, ARM, in anatomy, one of the superior extremities of the human body, comprehending the scapula, the os humeri, the cubit, and the hand. See the articles SCAPULA, ARM, &c.

BRACHMANS, a sect of indian philosophers, known to the antient Greeks by the name of gymnosophists. The antient brachmans lived upon herbs and pulse, and abstained from every thing that had life in it. They lived in solitude without matrimony, and without property; and they wished ardently for death, considering life only as a burden. The modern brachmans make up one of the casts or tribes of the banians. They are the priests of that people, and perform their office of praying and reading the law, with several mimical gestures, and a kind of quavering voice. They believe, that, in the beginning, nothing but God and the water existed, and that the supreme being, desirous to create the world, caused the leaf of a tree, in the shape of a child playing with its great toe in its mouth, to float on the water. From its navel there issued out a flower, whence Brama drew his original, who was intrusted by God with the creation of the world, and presides over it with an absolute sway. They make no distinction between the souls of men and brutes, but say the dignity of the human soul consists in being placed in a better body, and having more room to display its faculties. They allow of rewards and punishments after this life; and have so great a veneration for cows, that they look on themselves as blessed, if they can but die with the tail of one of them in their hand. They have preserved some noble fragments of the knowledge of the antient brachmans. They are skilful arithmeticians, and calculate, with great exactness, eclipses of the sun and moon. They are remarkable for their religious austerities. One of them has been known to make a vow, to wear about his neck a heavy collar of iron for a considerable time: another to chain himself by the foot to a tree, with a firm resolution to die in that place: and another to walk in wooden shoes stuck full of nails on the inside. Their divine worship consists chiefly of processions, made in honour of their deities. They have a college at Banara, a city seated on the Ganges,

BRA-

BRACHURUS, the name of a genus of animalcules, with tails ſhorter than their bodies, and no viſible limbs.

BRACHYGRAPHY, the art of ſhort-hand-writing. See TACHYGRAPHY.

In England we have various methods of ſhort-hand, and thoſe eaſier, ſpeedier, and more commodious, than are known in any other part of the world, witneſs Webſter's, Weſton's, MacAulay's, and ſeveral other ſhort-hands.

BRACHYPYRENIA, in the hiſtory of foſſils, a genus of *ſeptariæ*, with a ſhort roundiſh nucleus. See SEPTARIÆ.

BRACHYTELOSTYLA, in natural hiſtory, the name by which Dr. Hill calls thoſe cryſtals, which are compoſed of a ſhort hexangular column, terminated at each end by an hexangular pyramid. See the article CRYSTAL.

BRACKET, among carpenters, *&c.* a kind of wooden ſtay, ſerving to ſupport ſhelves, and the like.

BRACKETS, in a ſhip, the ſmall knees, ſerving to ſupport the galleries, and commonly carved. Alſo the timbers that ſupport the gratings in the head, are called brackets.

BRACKETS, in gunnery, are the cheeks of the carriage of a mortar: they are made of ſtrong planks of wood, of almoſt a ſemicircular figure, and bound round with thick iron plates; they are fixed to the beds by four bolts, which are called bed-bolts; they riſe up on each ſide of the mortar, and ſerve to keep her at any elevation, by means of ſome ſtrong iron bolts, called bracket-bolts, which go through theſe cheeks or brackets.

BRACKLAW, the capital of the palatinate of Bracklaw, in Podolia, in Poland, ſituated on the river Bog, an hundred and ten miles eaſt of Kaminec: eaſt long. 29° 20′, and north lat. 48°.

BRACKLEY, a borough town of Northamptonſhire, about fifteen miles ſouth-weſt of Northampton: weſt longitude 1° 15′, and north latitude 52°.

It ſends two members to parliament.

BRACTEA, in natural hiſtory, denotes a ſpangle, or thin flake of any ſubſtance.

BRACTEA, in botany, denotes the floral leaf.

BRACTEARIA, in natural hiſtory, a genus of talcs, compoſed of ſmall plates in form of ſpangles, each plate being either very thin, or fiſſile into very thin ones.

Of this genus there are a great many ſpecies, called, from their different colours, *mica aurea*, or gold-glimmer; and *mica argentea*, ſilver-glimmer, or cat's-ſilver, *&c.*

BRAD, in geography, a town of Sclavonia, ſituated on the north ſide of the river Save, eighteen miles ſouth of Poſega: eaſt longitude 18° 40′, and north latitude 45° 20′.

BRADFIELD, a market-town in Eſſex, fourteen miles north of Chelmsford; eaſt long. 30′, and north lat. 51° 54′.

BRADFORD, a market-town in Wiltſhire, about nine miles weſt of the Devizes: eaſt longitude 2° 40′, and north latitude 51° 20′.

BRADFORTH, a market-town of Yorkſhire, thirty miles ſouth-weſt of York: weſt long. 1° 35′, and north lat. 53° 40′.

BRADNICH, a market-town of Devonſhire, ten miles north of Exeter: weſt long. 3° 35′, and north lat. 50° 45′.

BRADS, among artificers, a kind of nails uſed in building, which have no ſpreading head, as other nails have. They are diſtinguiſhed, by ironmongers, by ſix names, as joiner's-brads, flooring-brads, batten-brads, bill-brads, or quarter-heads, *&c.* Joiner's-brads are for hard wainſcot, batten-brads for ſoft wainſcot; bill-brads are uſed when a floor is laid in haſte, or for ſhallow joiſts ſubject to warp. See the article NAILS.

BRADYPUS, in zoology, a genus of quadrupeds, of the order of the anthropomorpha of Linnæus, otherwiſe called *ignavus*, and in engliſh the ſloath; the characters of which are, that its feet have no great toe, and are made for climbing. See the article ANTHROPOMORPHA.

Of this genus there are two ſpecies. 1. The american ſloath, with a ſhort tail, and only three toes on each foot. 2. The ceylon ſloath, with only two toes on each foot, and no tail. See the article SLOATH.

BRAG, an ingenious and pleaſant game at cards, wherein as many may partake as the cards will ſupply; the eldeſt hand dealing three to each perſon at one time, and turning up the laſt card all round. This done, each gameſter puts down three ſtakes, one for each card. The firſt ſtake is won by the beſt card turned up in the dealing round; beginning from the ace, king, queen, knave, and ſo downwards. When cards of the ſame value are turned up to two or more of the gameſters, the eldeſt hand gains; but it is to be obſerved, that the ace of diamonds wins, to whatever hand it be turned up.

The fecond ftake is won by what is called the brag, which confifts in one of the gamefters challenging the reft to produce cards equal to his; now it is to be obferved, that a pair of aces is the beft brag, a pair of kings the next, and fo on; and a pair of any fort wins the ftake from the moft valuable fingle card. In this part confifts the great diverfion of the game; for, by the artful management of the looks, geftures, and voice, it frequently happens, that a pair of fives, treys, or even duces, out brags a much higher pair, and even fome pairs royal, to the no fmall meriment of the company. The knave of clubs is here a principal favourite, making a pair with any other card in hand, and with any other two cards a pair royal.

The third ftake is won by the perfon, who firft makes up the cards in his hand one and thirty; each dignified card going for ten, and drawing from the pack, as ufual in this game.

BRAGA, the capital of the province of Entre minho-duro, in Portugal, fituated on the river Cavado, thirty-two miles north of Porto: weft longitude 8° 40′, and north latitude 41° 20′.

BRAGANZA, a city of the province of Tralofmontes, in Portugal, fituated on the river Sabor, in 7° weft longitude, and 41° 50′ north latitude.

BRAGGOT, a kind of drink made of malt, honey, and fpices, much ufed in Wales.

BRAIL, or BRAILS, in a fhip, are fmall ropes made ufe of to furl the fails acrofs: they belong only to the two courfes and the mizen-fail; they are reeved through the blocks, feized on each fide the ties, and come down before the fail, being at the very fkirt thereof faftened to the cringles; their ufe is, when the fail is furled acrofs, to hale up its bunt, that it may the more eafily be taken up or let fall. Hale up the brails, or brail up the fail, that is, hale up the fail, in order to be furled or bound clofe to the yard.

BRAILOW, a town of Podolia, in Poland, fituated on the river Bog, forty miles north of Bracklaw: eaft longitude 29°, and north latitude 48° 50′.

BRAIN, in anatomy, that foft white mafs inclofed in the cranium or fkull, in which all the organs of fenfe terminate, and the foul is fuppofed principally to refide.

The brain is furrounded by three membranes, called menynges and matres: thefe are the dura mater, the arachnoides, and the pia mater. See the article DURA MATER, &c.

The general mafs is divided into three parts or portions, the cerebrum, or brain properly fo called, the cerebellum, and the medulla oblongata; to thefe three parts, contained with the cranium, fome add a fourth, *viz.* the medulla fpinalis, which is a continuation of the medulla oblongata. See CEREBELLUM, &c.

The cerebrum, or brain properly fo called, is a mafs of a moderate confiftence, and of a greyifh colour on the outer furface; the upper part is of an oval figure; it is flatter on the lower part, each lateral half of which is divided into three eminences, called lobes; one anterior one middle, and one pofterior. It is divided into two hemifpheres, by means of the proceffus falciformis of the dura mater, and thefe again are divided into the anterior and pofterior lobes, between which there is a large inferior protuberance that goes by the fame name; fo that, in each hemifphere, there are three lobes; one anterior, one middle, and one pofterior. Each lateral portion of the cerebrum has three fides; one fuperior, which is convex; one inferior, which is uneven; and one lateral, which is flat, and turned towards the falx: through the whole furface of thefe three fides, we fee inequalities or windings, like the circumvolutions of the inteftines, formed by waving ftreaks or furrows, very deep and narrow, into which the fepta of the pia mater infinuate themfelves.

The human brain is, in general, fo large as to weigh about four pounds. It is three times as much, in quantity, as the brain of an ox. Its fubftance, on cutting a part of it, is found to be of two kinds; the exterior, or cortical part; and the interior, or medullary part. The cortical part of the brain is about a fixth of an inch in thicknefs; the ftructure of the interior part is fibrous, and tubular. This laft has its origin from the extremely fmall arteries of the exterior or cortical part: and its termination is the beginning of the nerves: it is fomewhat harder than the cortical part.

In taking the brain carefully out of the fkull, there are diftinguifhed, in the lower part of the medulla oblongata, the nerves of the brain, which are commonly faid to be ten pair, though, in reality, only nine; they are, for the fake of memory, reduced

reduced into the form of two latin verses:

Olfacie s, cernens, oculosque movens, patiensque,
Gustans, abducens, audiensque, vagansque, loquensque.

Remarkable parts of the BRAIN. The most remarkable parts of the brain are, 1. The corpus callosum, which appears between the two hemispheres of the cerebrum. 2. The ventricles of the brain, in the examination of which we are to observe the septum lucidum, the fornix, the plexus choroideus, the corpora striata, and the thalami nervorum opticorum. 3. The nates and testes; and under these the valvula magna cerebri and the aqueduct of Sylvius. For the description of each of which, see the article CORPUS CALLOSUM, *&c.*

Vessels of the BRAIN. These are, besides the arteries, veins, and investient membranes, the pituitary gland, the rete mirabile, *&c.* See the articles PITUITARY GLAND, and RETE MIRABILE.

The uses of the brain, in general, are, 1. To be of the utmost importance and assistance to the animal functions. 2. To secrete the animal spirits, and to transmit them to the nerves, for the necessities of sensation and motion.

The cerebrum is supposed to be particularly constructed for the secretion of the animal; the cerebellum, for the vital and natural spirits. The particular uses to which the several parts of the brain are destined, are wholly unknown.

BRAIN LE COMPTE, a town of Hainalt, in the Austrian Netherlands, fifteen miles south-east of Brussels, and nine north-east of Mons: east longitude 4°, and north latitude 50° 40′.

BRAINTREE, a market-town of Essex, twelve miles north of Chelmsford: east longitude 35′, and north lat. 51° 50′.

BRAKE denotes female fern, or the place where it grows: also a sharp bit or snaffle for horses; and a baker's kneading trough: also an instrument with teeth, to bruise flax or hemp.

BRAKEL, a town of the bishopric of Paderborn, in the circle of Westphalia, in Germany: east longitude 9°, and north latitude 51° 40′.

BRAMA, the BREAM, in ichthyology, the name of a fresh-water fish, called by authors the cyprinus, with all its fins black, and twenty-seven bones in the pinna ani. See plate XXXII. fig. 4. and the article CYPRINUS.

BRAMANT, a town of Savoy, thirty-five miles north-west of Turin; east long. 6° 45′, and north lat. 45°.

BRAMBER, a borough-town of Sussex, about sixteen miles south-east of Grinsted: west long. 15′, and north latitude 50° 50′.

It sends two members to parliament.

BRAMBLE, or BRAMBLE-BUSH, in botany, the english name of the rubus of authors. See the article RUBUS.

BRAMBLE-NET, otherwise called hallier, is a net to catch birds in, of several sizes; the great mashes must be four inches square; those of the least size are three or four inches square; and those of the biggest five. In the depth, they should not be above three or four inches; but as for the length, they may be enlarged at pleasure; the shortest being eighteen feet long.

BRAMBLE, or BRAMBLING, in ornithology, the english name of a bird, called by authors montifringilla. See the article MONTIFRINGILLA.

BRAMINS, the name of the priests among the idolatrous Indians; the successors of the antient brachmans. See the article BRACHMANS.

BRAMPORE, a town of the hither peninsula of India: east longitude 77°, and north latitude 21° 30′.

BRAMPTON, a market-town of Cumberland, about six miles north-east of Carlisle: west longitude 2° 40′, and north latitude 54° 50′.

BRAMYARD, a market-town of Herefordshire, about twelve miles north-east of Hereford: west longitude 2° 30′, and north latitude 52° 20′.

BRAN, the skins or husks of corn, especially wheat ground, separated from the flour by a sieve or boulter.

It is of wheat-bran that starch-makers make their starch. The dyers reckon bran among the non-colouring drugs, and use it for making, what they call, the sour waters, with which they prepare their several dyes.

Bran, being of a porous spungy substance, is used, in pharmacy, as a suppurative and digestive medicine. In the composition of a cataplasm, the warmth of the part it is applied to, so rarefies the bran, that, being kept from the external air, all, that can transpire, will be sucked up into its interstices. However, it should be applied, where there is good probability of the matter's transpiring; otherwise it will draw more to the part, and thereby increase the malady.

BRANCH, in botany, an arm of a tree, or a part, which, fprouting out from the trunk, helps to form the head or crown thereof.

As branches have their outward parts common with the chief ftem, fo, in like manner, do their inward confift of a multitude of tubes, which are alfo provided with a number of fmall glands, veins, and mufcles interfperfed here and there, where the fap, coming from the firft canal, is rendered much more delicate.

Branches are diftinguifhed into various kinds: 1. Wood-branches, which are thofe that form the fhape of the tree, and are to be pruned from four to twelve inches, according to the vigour of the tree. 2. Fruit-branches, which are flenderer than the wood-branches, and have their eyes near to one another and large, by which the fruit-buds are formed. If they are too long, they are to be topped; but if they are of a juft length, they are to be preferved, only juft cutting off the extremity. 3. Branch-half-wood, that which, being too flender for a wood-branch, and too big for a fruit-branch, is cut off at the length of two or three inches, to make it produce a better fhoot, whether wood or fruit. 4. Irregular branches, which are fmall and confufed. They muft be cut off, becaufe they are neither fit for wood nor fruit. 5. Branches of falfe-wood. Thefe are fuch as grow upon the true wood branches, and have flat eyes at a diftance one from another; for which reafon they are ufelefs, and therefore muft be cut off. 6. Luxuriant branches, which are fuch as fhoot out from the large wood-branches. Thefe are as taper and as big about as one's finger, the back being fmooth and even, and having broad eyes at a diftance from one another. Thefe muft all be cut off. 7. Spurious wood-branches, fuch as come contrary to the order of nature; or otherwife than from the cuts of the preceding year, or which, coming on fuch cuts, are big in the place where they fhould be fmall.

The diftinguifhing marks of good branches are, that the eyes, in the whole extent, be thick, well fed, and very clofe one to another. The good ftrong branches are employed in producing yearly, on their extremities, other new branches, fome ftrong and others weak. The good weak branches are, fuch as are well placed, and, being of a mean thicknefs and length, may be able to produce, fpeedily, beautiful and good fruit.

The diftinguifhing marks of bad branches are, when, in the lower part, the eyes are flat, ill fed, and hardly formed, and at a large diftance one from another.

BRANCH is likewife a term ufed in genealogy and anatomy. Thus we fay, the branch of a family, the branch of an artery, the branch of a vein.

BRANCHES *of a bridle*, in the manege, are two pieces of iron bended, which, in the interval, between the one and the other, bear the bit-mouth, the crofs-chains, and the curb; fo that on one end they anfwer to the head-ftall, and on the other to the reins, in order to keep the horfe's head in fubjection. With regard to their form and ftructure, branches are either ftrait, in form of a piftol, for young horfes to form their mouth; or, after the conftable of France's fafhion, proper for a horfe that carries his head well. Some are in form of a gigot or leg, which will prevent horfes from carrying too low: fome in form of a bent knee, contrived for horfes that arm themfelves againft the operation of the bit; and others after the french fafhion, which is hardly about $\frac{1}{3}$ of an inch at the fevil hole, and kneed $1\frac{1}{4}$ inch at the jarret or ham.

It is to be obferved, 1. That the farther the branch is from an horfe's neck, the more effect it will have. 2. That fhort branches *cæteris paribus* are ruder, and their effects more fudden, than thofe of longer. 3. That the branch is to be proportioned to the length of a horfe's neck; and one may fooner err in chufing one too fhort than too long.

BRANCHES *of ogives*, in architecture, are the arches of gothic vaults. Thefe arches traverfing from one angle to another diagonal wife, form a crofs between the other arches, which make the fides of the fquare, of which the arches are diagonals.

BRANCH *of a trench*. See BOYAU.

BRANCH *of a mine*. See GALLERY.

BRANCHERY, in the anatomy of plants, denotes the ramifications of the fucciferous veffels difperfed through the parenchyma, or pulpy part of fruits.

The main branches are ufually twenty in number; one half, or fifteen, being diftributed over the parenchyma, and the reft, running from the ftalk in a ftraight line, meet the former at the cork or fhoot of the flower: to thefe laft the coats of the kernels are faftened.

BRANCHIÆ, GILLS, in the anatomy of fifhes, the parts correfponding to the lungs of land-animals, by which fifhes take

take in and throw out again a certain quantity of water, impregnated with air. All fishes, except the cetaceous ones and the petromyzum, are furnished with these organs of respiration; which are always eight in number, four on each side the throat. That next the heart is always the least, the rest increasing in order as they stand near the head of the fish.

Each of these gills is composed of a bony lamina, in form of a semicircle, for the most part; and on its convex side stand the leaves or lamellæ, like so many sickles. The whole convex part of the lamellæ is beset with hairs, which are longest near the base, and decrease gradually as they approach towards the point. There are also hairs on the concave side of the lamellæ, but shorter than the others, and continued only to its middle.

The convex side of one lamina, is fitted into the concave side of the next superior one; and all of them are connected together by means of a membrane, which reaches from their base half way their height, where it grows thicker, and in some measure resembles a rope. The rest of the lamina is free, and terminates in a very fine and flexible point.

As to the use of these gills, they seem to be designed to receive the blood protruded from the heart into the aorta, and convey it into the extremities of the lamellæ; from whence being returned by veins, it is distributed over the body of the fish.

BRANCHIARUM FORAMINA, *apertures of the gills*. In most fishes there is only one aperture; in the cartilaginous ones, these apertures are ten in number, five on each side; and in the petromyzon or lamprey, there are no less than fourteen of these apertures, seven on each side.

As to the cetaceous fishes, they have no aperture of this kind; and the reason seems to be, because they are furnished with lungs.

BRANCHIDÆ, in grecian antiquity, priests of the temple of Apollo, which was at Didymus in Ionia, a province of lesser Asia, towards the Ægean sea, upon the frontiers of Caria. They opened to Xerxes the temple of Apollo, the riches whereof he took away. After which, thinking it unsafe to stay in Greece, they fled to Sogdiana, on the other side of the Caspian sea, upon the frontiers of Persia, where they built a city, called by their own name: but they did not escape the punishment of their crime: for Alexander the great having conquered Darius, king of Persia, and being informed of their treachery, put them all to the sword, and razed their city, thus punishing the impiety of the fathers in their posterity.

BRANCHIOSTEGI, in ichthyology, one of the five general orders of fishes, whereof the rays of the fins are indeed bony, like those of the malacopterygii and acanthopterygii; from which, however, they are distinguished by having no bones, or osiculæ, in the branchiæ or gills.

Of this order there are only four genera, *viz.* the balistes, ostracion, cyclopterus, and lophius. See BALISTES, *&c.*

BRANCHON, a town of the Austrian Netherlands, about eight miles north of Namur; east longitude 4° 50′, and north latitude 50° 32′.

BRANCHUS, βραγχος, a defluxion of humours upon the fauces, being a species of catarrh. See the article CATARRH.

BRAND-HERRING, a kind of herring catched by the Dutch. It pays no duty of importation in Holland; and for exportation, it pays two livres and ten stivers *per* last of 12 tuns, according to the new book of rates made in Holland in the year 1725.

BRANDEIS, a town of Bohemia, situated on the river Elbe, ten miles north-east of Prague: east longitude 14° 25′, north latitude 50° 15′.

BRANDENBURG, a city of the marquisate of Brandenburg, in Germany, situated on the river Havel, twenty-six miles west of Berlin: east longitude 13°, north latitude 52° 25′.

It was once the capital of Brandenburg; but is now on the decline, since Berlin supplanted it.

BRANDON, a market town of Suffolk, ten miles north of Bury: east longitude 45′, north latitude 52° 30′.

It gives the title of duke to his grace the duke of Hamilton.

BRANDY, a spirituous and inflammable liquor, extracted from wine and other liquors, by distillation, which is most commonly performed by the *balneum mariæ*; but sometimes also by a small flaming fire. See DISTILLATION.

The vessels used in this operation, are commonly of copper; some distillers, in order to cool the brandy, make the neck of the matrass, which is very long, and of a serpentine or winding figure, pass through a tun of cold water.

In order to distil brandy, they fill the cucurbi

cucurbit half full with the liquor they would extract it from, which they put over a moderate fire, till about the sixth part of it be distilled, or till they perceive that which falls into the recipient, is no longer inflammable. Brandy distilled a second time, is called spirit of wine; and this spirit, purified again by one or by several distillations, is what they call spirit of wine rectified. The second distillation is made in the *balneum mariæ*, and in a glass cucurbit, till the brandy that was put into it be reduced into one half, and this half is again rectified, as often as the operator thinks proper. To try the goodness of the rectified spirit of wine, you must examine whether, when lighted into a blaze, it consumes entirely, without leaving any impurity behind: or rather, which is surer still, whether, having put some gunpowder at the bottom of the spirit you would try, the powder takes fire, when the spirit is consumed; in which case, the spirit is good. With regard to brandy (we speak only of that which is distilled from wine) they who trade in it, chuse it white, clear, of a good taste, and such as will bear the test or proof; that is to say, that when poured into a glass, it forms on the top of it a little white lather, which, as it diminishes, makes a circle; there being no brandy but that which is well deflegmated, and does not retain too much humidity, wherein this bead-proof, as it is called, will be entirely formed.

The chief use of brandy is as a drink, particularly in the northern countries, among the negroes of Guinea, who will sell one another for some bottles of brandy, and among the savages of Canada, who are extremely fond of it, but to whom the French are forbidden to give any, under very severe penalties: brandy is also used in medicine, to strengthen the nerves; and in dying, rectified spirits of wine being reckoned by the dyers among the non-colouring drugs.

Method of colouring BRANDY. All brandies, when first made, are as clear as water, and do grow higher coloured by long keeping; however, they are artfully made of any colour several ways. To make a light straw-colour, use turmeric, or a little treacle: but the best way is to give it a colour or tincture with a little burnt sugar, made to a consistence; or syrup of elder-berries may be used, which gives an admirable colour, and may be made deeper or lighter, according to the quantity you put in.

Besides the brandy made of wine, there is some also made of beer, cyder, syrups, sugar, molasses, fruit, grain, *&c.* however, these are not properly called brandy; but go under the general denomination of spirits, which see; see also the articles RUM, RACK, *&c.*

Wine brandy made in France, is esteemed the best in Europe. They make it wherever they make wine, and for that purpose, use wine that is pricked, rather than good wine. The chief brandies for foreign trade, and those accounted best, are the brandies of Bourdeaux, Rochelle, Cogniac, Charenton, the isle of Rhe, Orleans, the country of Blasois, Poictou, Touraine, Anjou, Nantes, Burgundy, and Champaign.

BRASIDIA, an anniversary solemnity at Sparta, in memory of Brasidas, a lacedæmonean captain, famous for his atchievements at Methone, Pylos, and Amphipolis. It was celebrated with sacrifices and games, wherein none were permitted to contend, but free-born Spartans. Whoever neglected to be present at the solemnity, was fined.

BRASIL, or BRAZIL, a large maritime country of South America, lying between 35° and 60° west longitude, and between the equator and 35° south latitude.

It is bounded by the Atlantic ocean and the river Amazon on the north, by the same ocean on the east, by the river of Plate on the south, and by Paraguay on the west; being computed to be 2500 miles in length, and 700 miles in breadth. The Portuguese have now the sole dominion of this extensive country, where besides sugar and tobacco, there are rich mines of gold and diamonds; from whence his Portuguese majesty draws a very considerable revenue.

BRASIL-WOOD, or BRAZIL-WOOD, an american wood of a red colour, and very heavy. It is denominated variously, according to the places from whence it is brought: thus we have brasil from Fernambuco, Japan, Lamon, *&c.*

The brasil-tree ordinarily grows in dry barren places, and even in the clifts of rocks: it is very thick and large, usually crooked and knotty: its flowers, which are of a beautiful red, exhale a very agreeable smell, which strengthens the brain. Though the tree be very thick, it is covered with so gross a bark, that when the savages have taken it off, the wood or trunk, which was before the thickness

ness of a man, is scarce left equal to that of his leg.

This wood must be chosen in thick pieces, close, sound, without any bark on it, and such as, upon splitting, of pale becomes reddish, and, when chewed, has a saccharine taste. It is much used in turned work, and takes a good polish: but its chief use is in dying, where it serves for a red colour: it is a spurious colour, however, that it gives, and easily evaporates and fades; nor is the wood to be used without alum and tartar.

From the brasil of Fernambuco, is drawn a kind of carmine, by means of acids: there is also a liquid lacca made of it, for miniature.

This tree has many distinctions among botanists: but it is agreed on by all to be a species of the saunders, and possessed of the same physical virtues; tho' it is seldom or ever prescribed by physicians.

BRASLAW, the capital of a palatinate of the same name, in the province of Lithuania in Poland: east longitude 26°, north latitude 56° 20′.

BRASS, or as the French call it, yellow copper, is a factitious metal, made of copper and lapis calaminaris.

The method of preparing it is as follows: the lapis, having been calcined and ground fine as flour, is mixed with fine charcoal, and incorporated, by means of water, into a mass: this being done, about seven pounds of lapis calaminaris is put into a melting pot, that will contain about a gallon, and over that about five pounds of copper; this pot is let down into a wind-furnace, where it remains for eleven hours, in which time it is converted into brass. The metal then is cast, either into plates or lumps; forty-five pounds of crude lapis calaminaris, will produce thirty pounds when calcined or burnt. Sometimes brass-shruff is used instead of copper: but that is not always to be procured in quantities sufficient, it being no other than a collection of old brass.

Pure brass is not malleable, unless when it is hot; for when it is cold it will break; and after it has been melted twice, it will be no longer in a condition to bear the hammer at all: but in order to render it capable of being wrought, they put seven pounds of lead to an hundred weight of brass, which renders it more soft and pliable.

Brass, manufactured into any kind of utensils, pays duty on importation $3\frac{83}{100}$d. the pound; whereof $3\frac{45}{100}$d. is repaid on exportation of the same goods.

The best proportion for brass guns, is said to be a thousand pounds of copper, nine hundred pounds of tin, and six hundred pounds of brass, in eleven or twelve thousand weight of metal.

The best brass guns are made of malleable metal, not of pure copper and calamine alone; but worse metals are used to make it run closer and sounder, as lead, and pot-metal. See CANNON.

Corinthian BRASS has been famous in antiquity, and is a mixture of gold, silver, and copper. L. Mummius having sacked and burnt the city of Corinth, 146 years before Christ, it is said this metal was formed from the immense quantities of gold, silver and copper wherewith that city abounded, thus melted and run together by the violence of the conflagration.

BRASS-COLOUR, one prepared by the braziers and colourmen to imitate brass. There are two sorts of it, the red brass, or bronze, and the yellow or gilt brass: the latter is made only of copper-filings, the smallest and brightest that can be found; with the former they mix some red ochre, finely pulverized: they are both used with varnish.

BRASSE, in ichthyology, the english name of the lucioperca, or pale, spotted pearch, with two long teeth on each side. See the article LUCIOPERCA.

BRASSICA, CABBAGE, in botany, a genus of the tetradynamia-siliquosa class of plants; the flower of which is cruciform, consisting of four petals, almost of the same length with the cup. The fruit is a bivalve pod, containing globose seeds. See the article CABBAGE.

BRAUNSBURG, a town of Prussia, situated on the Baltic sea, about thirty miles south-west of Koningsburg; east long. 20°, north lat. 54° 15′.

BRAVO, one of the Cape-verd islands: west long. 25°, north lat. 14°.

BRAURONIA, in grecian antiquity, a festival in honour of Diana, surnamed brauronia, from its having been observed at Brauron, an athenian village.

This festival was celebrated once in five years, being managed by ten men, called ἱεροποιοί. The victim offered in sacrifice was a goat, and it was customary for certain men to sing one of Homer's Iliads. The most remarkable persons at this solemnity were young virgins, from five

five to ten years of age, habited in yellow, and confecrated to Diana.

BRAWN, the flefh of a boar fouced or pickled: for which end the boar fhould be old; becaufe the older he is, the more horny will the brawn be.

The method of preparing brawn, is as follows: the boar being killed, it is the flitches only, without the legs, that are made brawn; the bones of which are to be taken out, and then the flefh fprinkled with falt, and laid in a tray, that the blood may drain off: then it is to be falted a little, and rolled up as hard as poffible. The length of the collar of brawn, fhould be as much as one fide of the boar will bear; fo that when rolled up, it be nine or ten inches diameter.

The collar being thus rolled up, is to be boiled in a copper, or large kettle, till it is fo tender, that you can run a ftraw through it: then fet it by, till it is thorough cold, and put it into the following pickle. To every gallon of water, put a handful or two of falt, and as much wheat bran: boil them together, then drain the bran as clear as you can from the liquor; and when the liquor is quite cold, put the brawn into it.

BRAY, a town of Champaign in France, about fixteen miles north of Sens: eaft long. 3° 20′, north lat. 48° 25′.

Bray is alfo the name of a port-town of the county of Wicklow, and province of Leinfter, in Ireland: weft long. 6° 16′, north lat. 53° 12′.

BRAZIER, an artificer who makes or deals in all kinds of brafs-ware. See Brass.

BRAZIL, or Brasil. See Brasil.

BRAZING, the fouldering or joining two pieces of iron together by means of thin plates of brafs, melted between the pieces that are to be joined. If the work be very fine, as when two leaves of a broken faw are to be brazed together, they cover it with pulverized borax, melted with water, that it may incorporate with the brafs powder, which is added to it: the piece is then expofed to the fire without touching the coals, and heated till the brafs is feen to run.

Brazing is alfo ufed for the joining two pieces of iron together by beating them hot, the one upon the other, which is ufed for large pieces by farriers, *&c.*

BRAZZA, a town and ifland on the coaft of Dalmatia, in the gulph of Venice: eaft longitude 18°, north latitude 43°.

BREACH, in fortification, a gap made in any part of the works of a town by the cannon or mines of the befiegers, in order to make an attack upon the place. To make the attack more difficult, the befieged fow the breach with crow-feet, or ftop it with chevaux de frize.

A practicable breach, is that where the men may mount and make a lodgment, and ought to be fifteen or twenty fathoms wide. The befiegers make their way to it, by covering themfelves with gabions, earth-bags, *&c.*

Breach, in a legal fenfe, is where a perfon breaks through the condition of a bond or covenant, on an action upon which, the breach muft be affigned: and this affignment muft not be general, but particular, as in an action of covenant for not repairing houfes, it ought to be affigned particularly what is the want of reparation; and in fuch certain manner, that the defendant may take an iffue.

Pound Breach. See the article Pound.

BREAD, *panis*, a mafs of dough, kneaded and baked in an oven. See the article Baking.

Bread ought to be well kneaded and feafoned with a little falt, otherwife it is accounted very unwholefome.

We find bread fometimes made of rye, oats, barley, or vetch-flour; but of all others, that prepared from wheat affords the moft wholefome nourifhment. In feveral parts of Afia, Africa, and America, they make bread of maiz-flour; befides which, the americans make bread of the caffava-root.

Some are of opinion, that corn growing in gravelly and light lands, makes better bread than that which grows in deep and low grounds.

As to the affize of bread, the mayors of cities and other corporations, or two juftices of the peace, have power to fettle it; and bakers trefpaffing againft it, forfeit 5 s. *per* ounce for every ounce wanting, and 2 s. 6 d. for lefs than an ounce.

French-Bread. To make good french-bread, for every two quarts of flour, add fix fpoonfuls of ale-yeaft; alfo milk and water, warmed; a bit of butter, and a little falt: make them pretty light, and letting them rife before the fire, bake them in a quick oven.

Some put the yolks of fix eggs, and the whites of two to this quantity; but others think the bread better without them.

Foreign bread, or bifket, pays duty on importation 1 s. $7\frac{25}{100}$ d. for every 112lb. whereof 1 s. $5\frac{25}{100}$d. is repaid on exporting it again.

BREAD-ROOM, in a ſhip, that deſtined to hold the bread, or biſket.

The boards of the bread-room ſhould be well joined and caulked, and even lined with tin plates, or mats. It is alſo proper to warm it well with charcoal, for ſeveral days before the biſket is put into it; ſince nothing is more injurious to the bread than moiſture. See BISKET.

BREAD, in the ſcripture ſtile, is taken for every ſort of food; the antient Hebrews had ſeveral ways of baking bread, as baking it under the aſhes, between two fires made of cow-dung, and in an oven. The Jews had, beſides their leavened and unleavened bread, their ſhew-bread, bread of affliction, *&c.*

BREADTH, in geometry, one of the three dimenſions of bodies, which multiplied into their length, conſtitutes a ſurface. See the article SURFACE.

BREAK, in a general ſenſe, ſignifies to divide a thing into ſeveral parts with violence.

In the art of war, to break ground, is to open the trenches before a place. See the article TRENCHES.

Among ſportſmen, to break a horſe in trotting, is to make him light upon the hand in trotting, in order to make him fit for a gallop. To break a horſe for hunting, is to ſupple him, to make him take the habit of running.

BREAKING, in a mercantile ſtile, denotes the not paying one's bills of exchange, accepted, or other promiſſory notes, when due; and abſconding, to avoid the ſeverity of one's creditors. In which ſenſe, breaking is the ſame thing with becoming bankrupt. See BANKRUPT.

BREAKING BULK, in the ſea-language, is the ſame with unlading part of the cargo.

BREAM, *brama*, in ichthyology. See the article BRAMA.

This fiſh is eaſily taken; for after two or three gentle turns, it falls on its ſide, and may be drawn to land with eaſe.

The beſt time of angling for bream, is from St. James's day till Bartholomew-tide, as being then exceeding fat; and the moſt proper bait, is the largeſt red garden worms that can be got.

BREAST, *pectus*, in anatomy, denotes the fore-part of the thorax. See the article THORAX.

BREASTS, *mammæ*, two glandulous tumours, of a roundiſh oval figure, ſituated on the anterior, and a little towards the lateral parts of the thorax: theſe are moſt remarkable in women; and in order to their being an ornament, they ſhould be of a moderate ſize, their ſkin ſhould be white and ſoft, their ſubſtance firm, not flaccid or pendulous, and the nipple red; they ſhould alſo ſtand at a conſiderable diſtance. In different perſons, however, their ſize is very various and uncertain. In virgins, they are uſually ſmall: in women with child, or who give ſuck, they are larger, often very enormous. In very young, and very old perſons, they are always ſmall. The time of the breaſts growing full, in women, is about the age of fourteen; and the moſt natural time of their decreaſing, is about the fiftieth year. The nipple of the human breaſt is a tumid, cylindrical body, of a red colour, placed on the middle of the breaſt, and ſurrounded with a circle: its ſubſtance is cavernous, almoſt like that of the human penis; and hence it is capable of erection. See the article NIPPLES.

The breaſts, beſides the common integuments of the body, *viz.* the epidermis, cutis, and fat, are compoſed of a glandulous ſubſtance, of a whitiſh colour, not unlike that of the udders in quadrupeds. This forms the inner or central part, to the midſt of which the nipple anſwers; and is ſurrounded by a quantity of fat, which makes by much the greater part of the breaſt.

Among this glandulous ſubſtance are found, beſide the blood-veſſels, a multitude of lactiferous ducts, or ſmall tubes, which unite by frequent anaſtomoſes; theſe tubes are larger in women who give ſuck, and are dilated into ſinuſes in many places, forming a kind of cells, which hold the ſecreted milk, and communicate with the veins and arteries. All theſe parts are to be ſeen much more diſtinctly in breaſts that are large and full of milk, than in others; in young women, indeed, they are ſcarce to be diſtinguiſhed at all; as alſo in ſuch as have little breaſts, in ſuch as are emaciated, and in thoſe of very old people.

The arteries and veins of the breaſts are called mammary veſſels, and are ſent from the ſubclavian and axillary veſſels. The former of theſe are called the internal, and the other the external ones. The nerves are from the dorſal ones of the ſpinal marrow.

Swelling breaſts, eſpecially if there be milk found in them, is generally judged a mark of the loſs of virginity, and a proof

that a woman has been with child; tho', it is said, it does not hold universally. See the article VIRGINITY.

The swelling of the breasts during the time of gestation, is owing to the consent between the breasts and the uterus; there being so near a communication between the mammary vessels, and the hypogastric vessels of the womb, that a dilatation in the latter is attended with a similar one in the former. See the articles UTERUS, PREGNANCY, &c.

The breasts, especially after delivery, are liable to divers diseases; as inflammations, excoriations, indurations, tumefactions, nodes, abscesses, schirrhuses, and cancers; to which may be added, certain peculiar disorders, as the sparganosis, strangalides, and gynæcomaston.

Uses of the BREASTS are, 1. To secrete the milk in their glandulous substance, from the arterial blood, and to collect it in their sinuses and tubuli lactiferi, to be discharged, at a proper time, by the nipple, for the nourishment of the infant. 2. To add to the peculiar beauty of the female. 3. To add a stimulus to venery on both sides, while they are handled and pressed. As to the use of the nipples, they are evidently for giving suck to the infant, who, without them, could scarce possibly get at it.

BREAST-PLATE, in antiquity, a piece of armour worn to defend the breast, originally believed to be made of hides, or hemp twisted into small cords, but afterwards made of brass, iron, or other metals, which were sometimes so exquisitely hardened, as to be proof against the greatest force.

BREAST-PLATE, in the manege, the strap of leather that runs from one side of the saddle to the other, over the horse's breast, in order to keep the saddle tight, and hinder it from sliding backwards.

BREAST-PLOUGH, one so fashioned that a man may shove it before him.

BREAST-WORK, the same with parapet. See the article PARAPET.

BREATH, the air inspired and expelled again in the action of respiration. See the article RESPIRATION.

BREATH, or WIND, in the manege, sometimes signifies the easy respiration of an horse, and sometimes it implies the ease and rest or repose of a horse; as give your horse breath, that is, do not ride him down; give that leaping horse a long breathing-time between the turns, or repetitions of his manege, &c.

BREATHING, the same with respiration. See the article RESPIRATION.

Difficulty of BREATHING, in medicine. See the article ASTHMA.

BRECHIN, a borough-town of the county of Angus in Scotland, about fifteen miles north-east of Dundee: west long. 2° 20', north lat. 56° 40'.

BRECON, or BRECKNOCK, a borough-town of Brecknockshire, in Wales; west longitude 3° 25', north latitude 52°.

BREDA, the capital of dutch Brabant, about thirty miles north-east of Antwerp; east longitude 4° 40', north lat. 51° 40'.

It is a strong fortified town.

BREECHES, a kind of close garment or covering for the thighs, hips, &c. worn by the modern Europeans.

The breeches are peculiar to the male sex, and answer, in some measure, to the femoralia of the Romans.

BREECH *of a great gun*, or cannon, the end next the touch-hole.

BREECHINGS, in the sea-language, the ropes with which the great guns are lashed, or fastened to the ship's side.

They are thus called, because made to pass round the breech of the gun.

BREEDING, in a moral sense, denotes a person's deportment or behaviour in the external offices and decorums of social life. In this sense, we say, well-bred, ill bred, a man of breeding, &c. Good breeding is hard to be defined; and none can understand the speculation, but those who have the practice. Good breeding amounts to much the same with what is otherwise called politeness, and, among the antient Romans, urbanity. Good breeding is near to virtue, and will of itself lead a man a great part of the way towards the same; it teaches him to rejoice in acts of civility, to seek out objects of compassion, and be pleased with every occasion of doing good offices. Lord Shaftesbury compares the well-bred man with the real philosopher: both characters aim at what is excellent, aspire to a just taste, and carry in view the model of what is beautiful and becoming. The conduct and manners of the one is formed according to the most perfect ease and good entertainment of company; of the other, according to the strictest interest of mankind; the one according to his rank and quality in his private station; the other, according to his rank and dignity in nature. Horace seems to have united both characters,

Quid

Quid verum atque decens curo & rogo, & omnis in hoc sum.

BREEDING *of horses.* To raise a good and beautiful race of horses, it is requisite to choose for a stallion a fine barb, free from hereditary infirmities, such as weak eyes, bad feet, spavins, pursiness, *&c.* He should, three months before the time he is to cover, be fed with sound oats, pease, or beans, or with coarse bread, and little hay, but a good deal of wheat straw, leading him out twice a day to water; and after he has drank, walking him up and down an hour, without making him sweat. He should be admitted to mares according to his strength; that is, let him have twelve or fifteen, or at most twenty. Mares go with foal eleven months, and as many days as they are years old: so a mare should be covered, that her foal may be brought forth at a time when there will be plenty of good grass.

About the end of May, you shall put your mares into an inclosure capable of feeding them the whole time the stallion is to be with them: all the mares are put together, as well the barren as others. Lead forth your stallion, after having taken off his hind shoes, then let him cover one twice in hand; after which turn him loose to the rest. In this inclosure there should be built a little lodge, into which the stallion may retire from the heat; and in the lodge, a manger, wherein you are to give him oats, beans, *&c.* and he must always be thus entertained while he is with the mares, which will be about six or seven weeks. You must take care that the stallion and the mare have the same food. Mares which are very gross, hold with much difficulty: but those that are indifferently fat and plump, conceive with greater ease.

To bring a mare in season, and make her retain, let her eat, eight days before she is brought to the horse, about two quarts of hemp-seed in the morning, and as much at night, as to the age of the stallion, he should not cover before he is six, nor after he is fifteen. On the other hand, the mares should not be covered before they are three years old.

BREEDING *of milk.* When a cow chances to have a calf, and is poor, or to calve before her time, and has not milk enough to keep her calf, she must have a good deal of mashes of malt given her lukewarm; also every morning and evening a quart of ale made into a posset, whose curd take off, and put into it aniseed, cummin, lettice, and coriander-seeds, all made into powder; mingle them with the posset, and let them stand three hours together; then give it the cow for four days successively; and by often drawing of her paps, her milk will be sure to increase in a short time.

BREEMING, in sea-language, donotes the burning off the weeds, filth, *&c.* which a ship contracts under water, with furze, faggots, or reeds, before her bottom is caulked and graved; and is to be done when in the dock, on the careen, or on the ground ashore.

BREEZE, a shifting wind, that blows from sea or land for some certain hours in the day or night; common in Africa, and some parts of the East and West Indies.

The sea breeze is only sensible near the coasts; it commonly rises in the morning, about nine, proceeding slowly in a fine small black curl on the water, towards the shore; it increases gradually till twelve, and dies, about five. Upon its ceasing, the land-breeze commences, which increases till twelve at night, and is succeeded in the morning by the sea-breeze again.

BREEZE, in brick-making, small ashes and cinders, sometimes made use of instead of coals, for the burning of bricks: but as this does not so well answer the end, the use of it is prohibited by 12 Geo. I. cap. xxxv.

BREEZE is also the name of an insect, called the gad-fly, or horse-fly. See the article GAD-FLY.

BREGENTS, or BERGENTS, a town situated at the east-end of the lake of Constance, in the county of Tyrol, in Germany; east long. 9° 40′, and north latitude 47° 36′.

BREGMA, in anatomy, the same with sinciput. See the article SINCIPUT.

The bregma consists of two bones, which are bones of the cranium, called ossa parietalia.

BREMEN, the capital of the dutchy of the same name, in lower Saxony, situated on the river Weser, in 8° 20′ east longitude, and 53° 25′ north latitude.

This city and dutchy belongs to the king of Great Britain, as elector of Hanover.

BREMERVHOIDE, a fortified town of the dutchy of Bremen, about seventeen miles north of Bremen; east longitude 8° 35′, and north latitude 53° 48′.

BREMGARTEN, a town of Switzerland, in

in the county of Baden, about twelve miles weſt of Zurich; eaſt longitude 8° 15′, and north latitude 47° 20′.

BRENT, in geography, a market town of Devonſhire, ſituated twenty-ſeven miles ſouth-weſt of Exeter; weſt longitude 4° 7′, and north latitude 50° 30′.

Brent-goose, a ſpecies of gooſe with a black neck and a white collar round; uſually confounded with the barnacle, though in reality a diſtinct ſpecies.

It is a little larger than the common duck, and is deſcribed by authors under the name of *anas torquata*.

BRENTFORD, a market-town of Middleſex, about ſeven miles weſt of London: weſt longit. 7′, and north lat. 51° 26′.

BRENTWOOD, or Burntwood, a market-town of Eſſex, about fifteen miles eaſt of London; eaſt longitude 15′, and north latitude 51° 35′.

BRESCIA, a city of Italy, about thirty miles north of Cremona; eaſt longitude 10° 35′, and north latitude 45° 30′.

It is a biſhop's ſee, and ſubject to Venice.

BRESELLO, a town of the dutchy of Modena, in Italy, ſituated on the ſouthern ſhore of the river Po, about twenty-five miles north-weſt of Modena; eaſt longitude 11°, and north latitude 44° 46′.

BRESICATE, in commerce, a kind of bays, of which there is ſome trade carried on with the negroes, between the river Gambia and Sierra Leone. The beſt ſorts for that purpoſe are the blue and the red.

BRESLAW, the capital of Sileſia, ſituated upon the river Oder, in 16° 50′ eaſt longitude, and 51° 15′ north latitude.

BRESSE, a territory of Burgundy, in France: it is bounded by Franche Compte on the north, by Savoy on the eaſt, by Dauphine on the ſouth, and by the Lyonois on the weſt.

BRESSVIRE, a town of Poictou, in the Orleanois in France, ſituated about thirty-five miles north-weſt of Poictiers; weſt longitude 30′, and north latitude 46° 50′.

BREST, in geography, an excellent port-town of Britanny, in France; weſt longitude 4° 30′, and north latitude 48° 25′.

Brest, or Breast, in architecture, a term ſometimes uſed for the member of a column, more uſually called *tore*. See the article Tore.

Brest-summers, in timber buildings, are pieces in the outward parts thereof, into which the girders are framed: this, in the ground-floor, is called a cell; and, in the garret floor a beam.

As to their ſize, it is the ſame with that of girders. See the article Girders.

BRESTE, or Bressici, the capital of the palatinate of Breſſici, and of Poleſia, in Poland, ſituated on the river Bog, about eighty miles eaſt of Warſaw; eaſt longitude 24°, and north latitude 52°.

BRETESSE, in heraldry, denotes a line embattled on both ſides. See the article Embattled.

BRETON, or Cape-breton, an american iſland, ſeparated from New-Scotland by a narrow ſtreight, called Canſo: it is about one hundred miles in length, and fifty in breadth, and is ſituated between 61° and 62° weſt longitude, and between 45° and 48° north latitude.

BRETVEIL, a town of Normandy, in France, about thirty-five miles ſouth of Rouen; eaſt longitude 1°, and north latitude 48° 50′.

BREVE, in law, is any writ directed to the chancellor, judges, ſheriffs, or other officers, whereby a perſon is ſummoned, or attached, to anſwer in the king's courts, &c.

Breve perquirere, the purchaſing of a writ or licenſe for trial in the king's courts: whence comes the preſent uſage of paying 6 s. 8 d. fine to the king in ſuit, for money due on bond, where the debt is 40 l. and of 10 s. where it is 100 l. &c.

Breve de recto is a writ of right, or licenſe, for a perſon ejected to ſue for the poſſeſſion of the eſtate detained from him.

Breve, in muſic, a note or character of time, in the form of a diamond, or ſquare, without any tail, and equivalent to two meaſures, or minims.

Breve, or Brevis, in grammar: ſyllables are diſtinguiſhed into longs and breves, according as they are pronounced quicker, or more ſlow. See the article Quantity.

BREVET, in the french cuſtoms, denotes the grant of ſome favour, or donation from the king, in which ſenſe it partly anſwers to our warrant, and partly to letters patent.

BREVIARY, a daily office, or book of divine ſervice, in the romiſh church. It is compoſed of matins, lauds, firſt, third, ſixth, and ninth, veſpers, and the compline, or poſt communio.

The breviary of Rome is general, and may

may be ufed in all places: but on the model of this, various others have been built, appropriated to each diocefe, and and each order of religious.

The breviary of the Greeks is the fame in almoft all churches and monafteries that follow the greek rites: the Greeks divide the pfalter into twenty parts. In general the greek breviary confifts of two parts, the one containing the office for the evening the other that of the morning, divided into matins, lauds, firft, third, fixth, and ninth, vefpers, and the compline: that is, of feven different hours, on account of that faying of David, *feptics in die laudem dixi tibi.*

The inftitution of the breviary is not very antient: there have been inferted in it the lives of the faints, full of ridiculous and ill attefted ftories, which gave occafion to feveral reformations of it, by feveral councils, particularly thofe of Trent and Cologn; by feveral popes, particularly Pius V. Clement VIII. and Urban VIII. alfo by feveral cardinals and bifhops, each lopping off fome extravagances, and bringing it nearer to the fimplicity of the primitive offices.

Originally every body was obliged to recite the breviary every day; but by degrees the obligation was reduced to the clergy only, who are enjoined under penalty of mortal fin and ecclefiaftical cenfures, to recite it at home, when they cannot attend in public. In the XIVth century there was a particular referve granted in favour of bifhops, who were allowed, on extraordinary occafions, to pafs three days without rehearfing the breviary.

This office was originally called curfus, and afterwards the breviarium; which latter name imports, that the old office was abridged, or rather, that this collection is a kind of abridgment of all the prayers.

The breviaries now in ufe are innumerable: the difference between them confifts principally in the number and order of the pfalms, hymns, pater nofter's, ave Mary's, creeds, magnificat's, cantemus's, benedictus's, canticamus's, nunc dimittis's, miferere's, halleluja's, gloria patri's, *&c.*

Breviary, *breviarium*, in roman antiquity, a book firft introduced by Auguftus, containing an account of the application of the public money.

BREVIATOR, an officer under the eaftern empire, whofe bufinefs it was to write and tranflate briefs.

At Rome thofe are ftill called breviators, or abbreviators, who dictate and draw up the pope's briefs. See the article Abbreviator.

BREVIBUS a rotulis liberandis, a writ or command to a fheriff, to deliver to his fucceffor, the county, with the appurtenances, and the rolls, writs, and other things to his office belonging.

BREVIER, among printers, a fmall kind of type, or letter, between nonpareil and bourgeois.

BREVIS, in anatomy, an appellation given to feveral mufcles, on account of their fhortnefs. Thus,

Brevis cubiti, in anatomy, is a mufcle that rifes from the fuperior and pofterior part of the humerus, and by joining its flefhy fibres with the brachiæus externus and longus, and becoming tendinous, covers the elbow, and is inferted into the olecranium, to extend the arm.

Brevis radii, a mufcle which comes from the external and upper part of the ulna, and paffing round the radius, is inferted into its upper and fore part, below the tendon of the biceps: this and the longus radii are called the fupinators, their office being to turn the palm upwards.

Brevis palmaris lies under the aponeurofis of the palmaris, and arifes from the bone of the metacarpus, that fuftains the little finger, and from that bone of the carpus which lies above the reft: it goes tranfverfly, and is inferted into the eighth bone of the carpus: it affifts in making the palm of the hand concave.

BREVITY, in matters of ftile, is a perfection of difcourfe, whereby all fuperfluous words are rejected, and only fuch as are abfolutely neceffary ufed. However, as brevity is apt to degenerate into obfcurity, it is a lefs fault to fay too much than too little.

BREVIUM custos. See Custos.

Brevium falso retorno. See Falso.

BREVORDT, a town of Guelderland, in the united Netherlands, fituated about twenty-five miles fouth-eaft of Zutphen, in 6° 35′ eaft long. and 52° north lat.

BREWER, a perfon who profeffes the art of brewing.

There are companies of brewers in moft capital cities: that of London was incorporated in 1427, by Hen. VI. and that of Paris is ftill older.

Brewer's-haven, a good harbour at the north-end of the ifland at Chiloe, on the coaft of Chili, in South America; weft longitude 82°, and fouth latitude 42°.

BREW-HOUSE, a place for brewing. See the next article.

It ſhould be ſo ſituated that the ſmoke may not be an annoyance to any of the apartments of the dwelling-houſe; the furnace ſhould be made cloſe and hollow, for ſaving the fire, and giving vent for the paſſage of the ſmoke, that the liquor may not be tainted thereby. A copper is better than a leaden boiler. The maſh-fat ſhould be placed near to the head of the cooler, and the cooler near to the maſh-fat, and the guile-fat under the cooler; and adjoining to them all, ſeveral clean tubs, to receive the worts and liquors.

BREWING, the operation of preparing ale, or bear, from malt. The uſual proceſs of brewing is as follows: the ingredients being ready, the water muſt be made to boil very ſpeedily, and while boiling with the greateſt violence, the fire muſt be immediately damped, or put out; when the height of the ſteam is over, the water is put into the maſhing tub, to wet the malt; then ſo much being poured out, as to make it of a conſiſtence ſtiff enough to be rowed up, let it ſtand thus a quarter of an hour, after which another quantity of the water is added, and rowed up as before; at laſt the full quantity of water is poured upon it, and that in proportion as the liquor is intended to be ſtrong or weak: this part of the operation is called maſhing. Afterwards the whole may be left to ſtand two or three hours, more or leſs, according to the ſtrength of the wort, or the difference of the weather; then let it run into the receiver, and maſh again for a ſecond wort, in the ſame manner as for the firſt, only the water muſt be cooler, and muſt not ſtand above half the time.

The two worts being mixed together, the quantity of hops that is deſigned may be added thereto, and the liquor put into the copper, which being cloſely covered up, let it boil gently for the ſpace of an hour or two; then let the liquor into the receiver, and the hops ſtrained from it into the coolers.

When cool, the barm is applied; which done, it is left to work, or ferment, till it be fit to tun up.

For ſmall beer there muſt be a third maſhing; the water muſt be near cold, and to ſtand not above three quarters of an hour; to be hopped and boiled at diſcretion.

For double ale, or beer, the two liquors coming from the two firſt maſhings muſt be uſed as liquor for a third maſhing of freſh malt. For fine ale, the liquor thus brewed is farther prepared with moloſſes; inſtead of yeſt, or barm, ſome uſe caſtile ſoap, others flour and eggs, others an eſſential oil of barley, others a quinteſſence of malt, others of wine, and others the ſal panariſtus.

In ordering veſſels for the preſervation of beer, they muſt not at one time be ſcalded, and at another waſhed with cold water: ſome rub the veſſels with hop-leaves, that come out of the wort, and ſo rince them again; then being dried in the air, and headed, they take a long piece of canvas, and dipping it in brimſtone, make matches thereof, and with a few coriander-ſeeds, ſet fire thereto: others opening the bung, let the match burn in the veſſel, keeping in as much as they can of the ſulphurous fume, by laying the bung lightly on, and when the match is burnt, they ſtop all cloſe for a little time; then being opened, and coming to the air, the caſk is found to be as ſweet as a violet.

BREY, a town of the biſhopric of Liege, in Germany, about ſixteen miles north of Maeſtricht; eaſt longitude 5° 40′, and north latitude 51° 15′.

BREYNIA, in botany, a genus of the polyandria-monogynia claſs of plants, whoſe corolla conſiſts of four oval patent petals, and is ſomewhat larger than the cup: the fruit is a very long, fleſhy, clavated ſoft pod, formed of two valves, and containing only one cell; the ſeeds are numerous, kidney-ſhaped, fleſhy, and arranged longitudinally, in the pod.

BRIANCON, a town of Dauphiny, in France, ſituated about forty-five miles ſouth-eaſt of Grenoble; eaſt longitude 6° 20′, and north latitude 44° 50′.

BRIAR, or Briar-bush, the wild roſe, with large hairy fruit. See Rose.

BRIARE, a town of the iſle of France, ſituated on the river Loire, about ſeventy-five miles ſouth of Paris; eaſt long. 2° 45′, and north latitude 47° 40′.

BRIBE, a gift given a perſon for doing or forbearing any action, that he ought to do or forbear. See the next article.

BRIBERY, in common law, is when a perſon in judicial places, takes a gift or reward of any perſon who has buſineſs before him, for his doing his office, or by colour of his office, except the king only, unleſs it be meat and drink.

Bribery, in judicial or miniſterial officers,

is punished by fine and imprisonment, and the loss of office; and in a judge it is deemed so heinous, that antiently it was punished as treason. Judges servants are punishable for receiving bribes: and if any judge refuses a bribe offered him, the person that offered it may be punished. Officers of the customs taking any bribe, whereby the crown may be defrauded, forfeit 100l. Candidates that bribe electors, after the test of writs of election, *&c.* are disabled to serve in parliament; as are likewise such electors, to vote, and to hold any office, and shall forfeit 500l. *&c.*

BRICIANI, those of the order of that name. This was a military order, instituted by St. Bridget, queen of Sweden, who gave them the rules and constitutions of those of Malta and St. Augustin. This order was approved by pope Urban V. They were to fight for the burying of the dead, to relieve and assist widows, orphans, the lame, sick, *&c.*

BRICK, a fat reddish earth, formed into long squares, four inches broad, and eight or nine long, by means of a wooden mould, and then baked or burnt in a kiln, to serve the purposes of building.

Bricks are of great antiquity, as appears by the sacred writings, the tower and walls of Babylon being built with them. In the east they baked their bricks in the sun; the Romans used them unburnt, only leaving them to dry for four or five years in the air.

The Greeks chiefly used three kinds of bricks; the first whereof was called διδωρον, *i. e.* of two palms, the second, τετραδωρον, of four palms; the third, πενταδωρον, of five palms. They had also other bricks, just half each of those, to render their works more solid, and also more agreeable to the sight, by the diversities of the figures and sizes of the bricks.

Of the matter whereof BRICKS *are made.* Pliny says, that to make good bricks they must not consist of any earth that is full of sand or gravel, nor of such as is gritty or stony; but of a greyish marl, or whitish chalky clay, or at least of a reddish earth: he also adds, that the best season for making bricks is the spring, because, if made in summer, they will be subject to crack, and be full of chinks. He directs, that the loam of which bricks are made, be well steeped and wrought with water.

Bricks, among us, are various, according to their various forms, dimensions, uses, method of making, *&c.* the principal of which are, compass bricks, of a circular form used in steyning of walls; concave, or hollow bricks, on one side flat like a common brick, on the other hollowed, and used for conveyance of water: feather-edged bricks, which are like common statute bricks, only thinner on one edge than the other, and used for penning up the brick pannels in timber buildings: cogging bricks are used for making the indented works under the caping of walls built with great bricks: caping bricks, formed on purpose for caping of walls: dutch or flemish bricks, used to pave yards, or stables, and for soap-boilers vaults and cisterns: clinkers, such bricks as are glazed by the heat of the fire in making: sandal or samel-bricks, are such as lie outmost in a kiln, or clamp, and consequently are soft and useless, as not being thoroughly burnt: great bricks are those twelve inches long, six broad, and three thick, used to build fence walls: plaister or buttress bricks, have a notch at one end, half the breadth of the brick; their use is to bind the work which is built of great bricks: statute bricks, or small common bricks, ought, when burnt, to be nine inches long, four and a quarter broad, and two and a half thick; they are commonly used in paving cellars, sinks, hearths, *&c.*

Making of BRICK. With regard to the manner of making bricks, we have place-bricks, generally made on the eastern part of Sussex; so called because of a level smooth place just by where they are struck or moulded. In this place, the bearer-off lays the bricks singly down in ricks or rows, as soon as moulded, where they are left till they are stiff enough to be turned on their edges, and drest, *i. e.* till their inequalities are cut off; when they are dry, they carry them to stacks, or places where they row them up, like a wall of two bricks thick, with some small intervals betwixt them, to admit the wind and air to dry them. When the stack is filled, they are covered with straw on the top, till they be dry enough to be carried to the kiln to be burnt.

Stock-bricks are of the same form with place-bricks, though different in the quality of their earth, and manner of mak-

ing. They are made on a ſtock, that is, the mould is put on a ſtock, after the manner of moulding or ſtriking of tiles; and when one brick is moulded, they lay it on a piece of board, a little longer than the brick, and on that brick they lay another like piece of board, and on this, another brick, till after this manner they have laid three bricks on one another; and ſo they continue to ſtrike and place them on the ſtage, as they do tiles, till the ſtage is full, then they take each three ſucceſſively, and carry them to the ſtacks, and turn them down on the edges, ſo that there will be the thickneſs of a thin piece of board betwixt each brick. When the ſtack is filled with one height of bricks, from one end to the other, they begin to ſet them upon thoſe firſt laid on the ſtack; by that time they will be a little dried, and will bear the others; for they are moulded of a very ſtiff earth. When they come to ſet a ſecond, third, *&c.* height or courſe, they cater them a little, as they call it, to prevent their reeling. When the ſtack is as high as they think fit, they cover them with ſtraw, as they do place-bricks, till they be dry enough to burn. This way is more troubleſome than that of making place-bricks; but they are forced to have recourſe to it in many places, where, if they laid their bricks abroad in a place to dry, as they do place-bricks, the nature of the earth is ſuch, that they would burſt to pieces.

The ſeveral ſteps in the proceſs of our brick-making, are, caſting the clay or earth; treading or tempering the ſame with water; ſanding the brick, which is to riddle or caſt dry ſand on the wet brick lying on the ground; raiſing the bricks on one ſide, that they may dry the better and ſooner; walling the brick, is to lay one upon another, after the manner of a wall to keep them from foul weather, and that they may dry thoroughly; ſodding the bricks, is to cover them up with turf; ſetting the bricks in the kiln, is the laying of ſlack or ſmall-coal between every courſe or row of bricks; dawbing the kiln, is the claying of it all about the top, to keep the fire in, and ſecure the kiln from weather; firing, is to ſet the fuel put into the arches on fire; earthing implies to put earth about it, to ſtop the arches, that the fire may take upwards to the top of the kiln; cooling the kiln after it has done burning; breaking the kiln; counting of the bricks; carrying the bricks, which is to bring them to the place where they are to be uſed, either on horſeback or in tumbrels.

The arches of a kiln of bricks, are the hollow places at the bottom where the fire is; pigeon-holes are apertures in the fire-arches; checker courſe, denotes the lower row of bricks in the arch; tying courſe, thoſe which cover the top of the arch; binding courſe, is the laying of bricks over the joints of the under courſe; dividing courſe, is the diviſions or parts of of a kiln; flatting courſe, is the top of all the kiln; the wheeler is he who carries the clay from the pit to the moulding board foot, and there turns it off the wheelbarrow; ſtaker, he who puts the clay off the ground upon the board; moulder, he who works the clay into the brick-moulds, and ſtrikes the ſuperfluous clay off the top of the moulds; breaker off, he who takes the mould, with the clay in it, from the moulder, and lays it on the ground to dry; moulder, he who parts off the clay from the mould; off-bearer, he who pulls off the empty mould into the tub of water or ſand; taker up of the brick has his work alſo to dreſs and ſmooth them from irregular edges.

After caſting the clay, the next ſtep is to tread or temper it, which ought to be performed doubly of what is uſually done; ſince the goodneſs of the bricks depends chiefly upon this firſt preparation. The earth itſelf, before it is wrought, is generally brittle and duſty; but, adding ſmall quantities of water gradually to it, and working and incorporating it together, it opens its body, and tinges the whole with a tough, glewy, ſtrong band or ſubſtance. If, in the tempering, you over-water them, as the uſual method is, they become dry and brittle almoſt as the earth they are made of; whereas, if duly tempered, they become ſmooth and ſolid, hard and durable. A brick of this laſt ſort takes up near as much earth as a brick and a half made the contrary way; in which the bricks are ſpongy, light, and full of cracks, partly through want of due working, and partly by mixing of aſhes and light ſandy earth, to make it work eaſy, and with greater diſpatch; as alſo to ſave culm or coals in the burning. We may add, that for bricks made of good earth, and well tempered, as they become ſolid and ponderous, ſo they take up a longer time in drying and burning than the common ones; and that the well drying of

bricks,

bricks, before they be burned, prevents their cracking and crumbling in the burning.

The method of burning BRICKS. Bricks are burnt either in a kiln or clamp. Thofe that are burnt in a kiln, are firft fet or placed in it, and then the kiln being covered with pieces of bricks, they put in fome wood, to dry them with a gentle fire; and this they continue till the bricks are pretty dry, which is known by the fmoke's turning from a darkifh colour to a tranfparent fmoke: they then leave off putting in wood, and proceed to make ready for burning, which is performed by putting in brufh, furze, fpray, heath, brake, or fern faggots; but before they put in any faggots, they dam up the mouth or mouths of the kiln with pieces of bricks (which they call fhinlog) piled up one upon another, and clofe it up with wet brick-earth, inftead of mortar.

The fhinlog they make fo high, that there is but juft room above it to thruft in a faggot; then they proceed to put in more faggots, till the kiln and its arches look white, and the fire appears at the top of the kiln; upon which they flacken the fire for an hour, and let all cool by degrees. This they continue to do, alternately heating and flacking, till the ware be thoroughly burnt, which is ufually effected in forty-eight hours.

About London they chiefly burn in clamps, built of the bricks themfelves, after the manner of arches in kilns, with a vacancy between each brick, for the fire to play through; but with this difference, that inftead of arching, they fpan it over by making the bricks project one over another, on both fides of the place, for the wood and coals to lie in till they meet, and are bounded by the bricks at the top, which clofe all up. The place for the fuel is carried up ftrait on both fides, till about three feet high; then they almoft fill it with wood, and over that lay a covering of fea-coal, and then overfpan the arch; but they ftrew fea-coal alfo over the clamp, betwixt all the rows of bricks; laftly, they kindle the wood, which gives fire to the coal, and when all is burnt, then they conclude the bricks are fufficiently burnt.

Oil of BRICKS, olive oil imbibed by the fubftance of bricks, and afterwards diftilled from it.

The procefs is as follows: the pieces of bricks being heated red-hot in a fmart fire, are extinguifhed in a trough half filled with olive oil: being then feparated, and the brick thus faturated with oil, and grofly pounded, it is put into a retort, and placed in a reverberatory furnace, from whence is drawn an oil called by apothecaries oleum de lateribus, and by fome chemifts, oil of the philofophers. It is ufed for refolving tumours in the fpleen, alfo againft palfies, epilepfies, &c.

BRICKLAYER, one who lays bricks in the building of edifices of any kind. Tilers and bricklayers were incorporated 10 Eliz. under the name of mafter and wardens of the fociety of freemen of the myftery and art of tilers and bricklayers.

The materials ufed by bricklayers, are bricks, tiles, mortar, laths, nails, and tile-pins.

Their tools are, a brick-truel, wherewith to take up mortar; a brick-ax, to cut bricks to the determined fhape; a faw, for fawing bricks; a rub-ftone, on which to rub them; alfo a fquare, wherewith to lay the bed or bottom, and face or furface of the brick, to fee whether they be at right angles: a bevel, by which to cut the under fizes of bricks to the angles required: a fmall trannel of iron, wherewith to mark the bricks: a float-ftone, with which to rub a moulding of brick to the pattern defcribed: a banker, to cut the bricks on: line-pins, to lay their rows or courfes by: plumb-rule, whereby to carry their work up right: level, to conduct it horizontal: fquare, to fet off right angles: ten foot rod, wherewith to take dimenfions: jointer, wherewith to run the long joints: rammer, wherewith to beat the foundation; crow and pick-ax, wherewith to dig through walls.

BRICK-LAYING, the art of framing edifices of bricks.

Brick-laying is one of the arts fubfervient to architecture.

Moxon has an an exercife exprefs on the art of brick-laying, wherein he defcribes the materials, tools, and methods of working ufed by bricklayers.

Great care is to be taken, that bricks be laid joint on joint in the middle of walls, as feldom as may be: and that there be good bond made there, as well as on the outfides. Some brick-layers, in working a brick and half wall, lay the header on one fide of the wall, perpendicular on the header on the other fide, and fo all along

along through the whole courfe: whereas, if the header on one fide of the wall were toothed as much as the ftretcher on the other fide, it would be a ftronger toothing, and the joints of the headers of one fide would be in the middle of the headers of the courfe they lie upon of the other fide.

If bricks be laid in winter, let them be kept as dry as poffible: if in fummer, it will quit coft to employ boys to wet them, for that they will then unite with the mortar better than if dry, and will make the work ftronger. In large buildings, or where it is thought too much trouble to dip all the bricks feparately, water may be thrown on each courfe after they are laid, as was done at the building of the phyficians college in Warwick lane, by order of Dr. Hooke.

If bricks be laid in fummer, they are to be covered: for if the mortar dries too haftily, it will not bind fo firmly to the bricks, as when left to dry more gradually. If the bricks be laid in winter, they are alfo to be covered well, to protect them from rain, fnow, and froft: which laft is a mortal enemy to mortar, efpecially to all fuch as has been wetted juft before the froft affaults it.

BRICKMAKER, he who undertakes the making of bricks. See the article BRICK.

BRICKING, among builders, the counterfeiting of a brick wall on plafter, which is done by fmearing it over with red ochre, and marking the joints with an edged tool: thefe laft are afterwards filled with a fine plafter.

BRIDE, *fponfa*, a woman newly married. See the article MARRIAGE.

Among the Greeks it was cuftomary for the bride to be conducted from her father's houfe to her hufband's in a chariot, the evening being chofe for that purpofe, to conceal her blufhes: fhe was placed in the middle, her hufband fitting on one fide, and one of her moft intimate friends on the other: torches were carried before her, and fhe was entertained in the paffage with a fong fuitable to the occafion. When they arrived at their journey's end, the axle-tree of the chariot they rode in, was burnt, to fignify that the bride was never to return to her father's houfe. Among the Romans, when a bride was carried home to her hufband's houfe, fhe was not to touch the threfhold at her firft entrance, but was to leap over it.

BRIDEGROOM, *fponfus*, a man newly married, the fpoufe of the bride.

The fpartan bridegrooms committed a kind of rape upon their brides: for matters being agreed on between them two, the woman that contrived and managed the match, having fhaved the bride's hair clofe to her fkin, dreffed her up in man's cloaths, and left her upon a mattrefs; this done, in came the bridegroom, in his ufual drefs, having fupped as ordinary, and ftealing as privately as he could to the room where the bride lay, and untying her virgin-girdle, took her to his embraces, and having ftayed a fhort time with her returned to his companions, with whom he continued to fpend his life, remaining with them by night as well as by day, unlefs he ftole a fhort vifit to his bride, which could not be done without a great deal of circumfpection, and fear of being difcovered.

BRIDEWELL, a work-houfe, or place of correction for vagrants, ftrumpets, and other diforderly perfons.

Thefe are made to work, being maintained with cloathing and diet; and when it feems good to their governors, they are fent by paffes into their native countries: however, while they remain here, they are not only made to work, but, according to their crimes, receive, once a fortnight, fuch a number of ftripes as the governor commands. Yet to this hofpital feveral hopeful and ingenious lads are put apprentices, and prove afterwards honeft and fubftantial citizens.

BRIDGE, a work of mafonry or timber, confifting of one or more arches, built over a river, canal, or the like, for the conveniency of croffing the fame.

Bridges are a fort of edifices very difficult to execute, on account of the inconveniency of laying foundations, and walling under water.

The parts of a bridge are the piers, the arches, the pavement, or way over for cattle and carriages, the foot way on each fide, for foot paffengers, the rail or parapet, which inclofes the whole, and the butments or ends of the bridge on the bank.

The conditions required in a bridge are, that it be well defigned, commodious, durable, and fuitably decorated. The piers of ftone bridges fhould be equal in number, that there may be one arch in the middle, where commonly the current is ftrongeft; their thicknefs is not to be lefs than

than a sixth part of the span of the arch, nor more than a fourth; they are commonly guarded in the front with angular sterlings, to break the force of the current: the strongest arches are those whose sweep is a whole semicircle; as the piers of bridges always diminish the bed of a river, in case of inundations, the bed must be sunk or hollowed in proportion to the space taken up by the piers, (as the waters gain in depth what they lose in breadth) otherwise the current may wash away the foundation, and endanger the piers: to prevent this, they sometimes diminish the current, either by lengthening its course, or by making it more winding; or by stopping the bottom with rows of planks, stakes, or piles, which break the current. It is also required, that the foundation of bridges be laid at that season of the year, when the waters are lowest; and if the ground be rocky, hard gravel, or stony, the first stones of the foundation may be laid on the surface; but if the soil be soft sand, it will be necessary to dig till you come to a firm bottom.

Among the bridges of antiquity, that built by Trajan over the Danube is allowed to be the most magnificent; it was composed of twenty arches, of an hundred and fifty feet in height, and their opening from one pier to another was an hundred and sixty feet: the piers of this fine bridge are still to be seen in the Danube, being erected between Servia and Moldavia, a little above Nicopolis.

Among modern bridges, that of Westminster, built over the river Thames, may be accounted one of the finest in the world: it is forty-four feet wide, a commodious foot-way being allowed for passengers, on each side, of about seven feet broad, raised above the road allowed for carriages, and paved with broad moorstones, while the space left between them is sufficient to admit three carriages and two horses to go a-breast, without any danger. Its extent from wharf to wharf is 1220 or 1223 feet, being full three hundred feet longer than London bridge. The free water-way under the arches of this bridge is eight hundred and seventy feet, being four times as much as the free water-way left between the sterlings of London bridge, before it was lately repaired; this disposition, together with the gentleness of the stream, are the chief reasons why no sensible fall of water can ever stop, or, in the least, endanger the smallest boats, in their passage through the arches.

It consists of thirteen large and two small arches, together with fourteen intermediate piers.

Each pier terminates with a saliant right angle against either stream: the two middle piers are each seventeen feet wide at the springing of the arches, and contain three thousand cubic feet, or near two hundred tons of solid stone; and the others decrease in width equally on each side by one foot.

All the arches of this bridge are semicircular; they all spring from about two feet above low-water mark; the middle arch is seventy-six feet wide, and the others decrease in breadth equally on each side by four feet.

This bridge is built of the best materials, and the size and disposition of these materials are such, that there is no false bearing, or so much as a false joint in the whole structure; besides that, it is built in a neat and elegant taste, and with such simplicity and grandeur, that, whether viewed from the water, or by the passengers who walk over it, it fills the mind with an agreeable surprize. The semioctangular towers, which form the recesses of the foot-way, the manner of placing the lamps, and the height of the balustrade, are, at once the most beautiful, and, in every other respect, the best contrived.

Bridges are either built of stone or timber, as is judged most convenient.

Stone BRIDGES consist of piers, arches, and butments, made of hewn stone, sometimes also intermixed with bricks.

Wooden BRIDGES are composed of beams and joists, supported by punchions, well cramped and bound together.

Rushen BRIDGES are made of great bundles of rushes, bound fast together, over which planks are laid, and fastened: these are put over marshy places, to serve for a crossing ground.

Pendent or hanging BRIDGES, called also philosophical bridges, are those not supported by posts or pillars, but hung at large in the air, sustained only at the two ends or butments.

Draw-BRIDGE, one that is fastened with hinges at one end only, so that the other may be drawn up; in which case, the bridge stands upright, to hinder the passage of a ditch or moat.

Flying or floating BRIDGE is generally made of

of two fmall bridges, laid one over the other in fuch a manner, that the uppermoft ftretches and runs out, by help of certain cords, running through pullies placed along the fides of the under bridge, which pufh it forwards, till the end of it joins the place it is intended to be fixed on.

Bridge *of boats*, boats made of copper, and joined fide by fide, till they reach acrofs a river, which being covered with planks, are faftened with ftakes or anchors.

Bridge *of communication* is that made over a river, by which two armies, or forts, which are feparated by that river, have a free communication with one another.

Floating Bridge, a bridge made ufe of, in form of a work in fortification, called a redoubt, confifting of two boats, covered with planks, which are folidly framed, fo as to bear either horfe or cannon.

Bridge, in gunnery, the two pieces of timber which go between the two tranfums of a gun-carriage, on which the bed refts.

Bridge, in mufic, a term for that part of a ftringed inftrument over which the ftrings are ftretched. The bridge of a violin is about one inch and a quarter high, and near an inch and a half long.

Bridge-town, the capital of the ifland of Barbadoes; weft longitude 56°, and north latitude 13°.

It has commodious wharfs, for unlading goods, alfo fome forts and caftles for the defence of the place.

Bridge-north, a borough-town of Shropfhire, fituated on the river Severn, about fifteen miles fouth-eaft of Shrewfbury; weft longitude 2° 30′, and north latitude 52° 40′.

It fends two members to parliament.

Bridge-water, a large borough-town of Somerfetfhire, fituated near the mouth of the river Evil, in 3° weft longitude, and 51° 15′ north latitude.

It likewife fends two members to parliament.

BRIDLE, in the manege, a contrivance made of ftraps or thongs of leather, and pieces of iron, in order to keep a horfe in fubjection and obedience.

The feveral parts of a bridle are the bit, or fnaffle; the head-ftall, or leathers from the top of the head to the rings of the bit; the fillet, over the fore-head and under the fore-top; the throat-band, which buttons from the head-band under the throat; the reins, or long thongs of leather that come from the rings of the bit, and being caft over the horfe's head, the rider holds them in his hand; the nofe-band, going through loops at the back of the head-ftall, and buckled under the cheeks; the trench; the cavefan; the martingal, and the chaff-halter.

Bridles imported pay a duty of 4 s. 9$\frac{45}{100}$d. the dozen; whereof 4 s. 3$\frac{75}{100}$d. is repaid on exporting them again: befides which they alfo pay 6 s. for every 20 s. value upon oath, without any draw-back.

Bridle-hand is the horfe-man's left hand, the right-hand being the fpear or fword-hand.

To fwallow the Bridle, is faid of a horfe that has too wide a mouth, and too fmall a bit-mouth.

Bridle, *frænum*, in anatomy. See the article Frænum.

BRIDON, or Snaffle, after the englifh fafhion, is a very flender bit-mouth, without any branches. The Englifh make much ufe of them, and fcarcely ufe any true bridles except in the fervice of war. The French call them bridons, by way of diftinction from bridles.

BRIDPORT, a borough and port-town of Dorfetfhire, fituated about ten miles weft of Dorchefter; weft longitude 3°, and north latitude 50° 40′.

It fends two members to parliament.

BRIEF, in common-law, a writ whereby a man is fummoned or attached to anfwer any action.

It is called brief, becaufe it is couched in a few words, without any preamble.

Brief is alfo ufed for a writing iffued out of any of the king's courts of record at Weftminfter, whereby fomething is commanded to be done, in order to juftice, or the execution of the king's command.

Brief is alfo taken for a letter patent, granting a licenfe to a fubject to make collection for any public or private lofs, as briefs for lofs by fire, to be read by minifters in churches, &c.

Brief is likewife an abridgment of a client's cafe, wrote out for the inftruction of council, on a trial at law.

Apoftolical Briefs, letters which the pope difpatches to princes, or other magiftrates, relating to any public affair.

Thefe briefs are diftinguifhed from bulls, in regard the latter are more ample, and always written on parchment, and fealed with lead or green wax; whereas briefs are very concife, written on paper, fealed with red wax, and with the feal of the fifherman, or St. Peter in a boat.

BRIEG, a town of Silefia, about twenty miles

miles ſouth-eaſt of Breſlaw: eaſt longitude 17° 20′, and north latitude 50° 50′.

BRIEUX, a port-town of Britanny, in France, ſituated on the engliſh channel, about thirty miles weſt of St. Malo; weſt longitude 2° 50′, and north latitude 48° 40′.

BRIGADE, in the military art, a party or diviſion of a body of ſoldiers, whether horſe or foot, under the command of a brigadier.

An army is divided into brigades of horſe and brigades of foot: a brigade of horſe is a body of eight or ten ſquadrons; a brigade of foot conſiſts of four, five, or ſix battalions.

The eldeſt brigade has the right of the firſt line, and the ſecond the right of the ſecond, and the two next take the left of the two lines, and the youngeſt ſtand in the center.

Brigade-major is an officer appointed by the brigadier, to aſſiſt him in the management and ordering of his brigade.

BRIGADIER is the general officer who has the command of a brigade. The eldeſt colonels are generally advanced to this poſt. He that is upon duty is brigadier of the day. They march at the head of their own brigades, and are allowed a ſerjeant and ten men, of their own brigade for their guard.

BRIGANDINE, a coat of mail, a kind of antient defenſive armour, conſiſting of thin jointed ſcales of plate, pliant and eaſy to the body.

BRIGANTINE, a ſmall light veſſel, which can both row and ſail well, and is either for fighting or giving chace. It hath about twelve or fifteen benches for the rowers, one man to a bench: all the hands aboard are ſoldiers, and each man hath his muſquet lying ready under his oar.

BRIGG, a market-town in Lincolnſhire, about twenty-four miles north of Lincoln; weſt longitude 20′, and north latitude 53° 40′.

BRIGHTHELMSTON, a little port-town in Suſſex, about ſeven miles ſouth-weſt of Lewes: weſt longitude 10′, and north latitude 50° 50′.

BRIHUEGA, a town of new Caſtile, in Spain, about forty-three miles north-eaſt of Madrid; weſt longitude 3° 20′, and north latitude 41°.

BRILL, or Briel, the capital of the iſland of Voorn, in Holland, ſituated about twelve miles ſouth of the Hague; eaſt longitude 4°, and north latitude 51° 50′.

BRIMSTONE, in natural hiſtory, the ſame with ſulphur. See the article Sulphur.

BRIN, a city of Moravia, dependent on Bohemia, about thirty miles ſouth-weſt of Olmutz; eaſt longitude 16° 20′ and north latitude 49° 14′.

BRINDISI, a port town of the kingdom of Naples, ſituated on the gulph of Venice, about thirty five miles north-weſt of Otranto; eaſt longitude 18° 45′, and north latitude 40° 40′.

BRINE, water replete with ſaline particles; or pickle. See the article Salt.

Brine-water, a ſalt water, which being boiled, turns into ſalt. See Salt.

Brine taken out of brine-pits, or brine-pans, uſed by ſome for curing or pickling of fiſh, without boiling the ſame into ſalt, and rock-ſalt without refining it into white-ſalt, are prohibited by 1 Anne, cap. xxi.

BRINGERS-UP, The whole laſt rank of a battalion, being the laſt men of each file, are called bringers-up.

BRINGING-IN *a horſe*, in the manege, the ſame as to ſay keep down the noſe of a horſe that boars, and toſſes his noſe in the wind: this is done by means of a good branch. See Banquet and Wind.

BRIONY, or Bryony. See Bryony.

BRISAC, a fortified town of Swabia, in Germany, ſituated on the eaſtern ſhore of the river Rhine, about thirty miles north of Straſburg; eaſt longitude 7° 15′, and north latitude 48° 10′.

New Brisac, a fortreſs on the weſtern ſhore of the Rhine, oppoſite to old Briſac. It is ſituated in Alſace, and belongs to the French.

BRISGOW, a territory of the circle of Swabia, in Germany, ſituated on the eaſt ſide of the Rhine, oppoſite to the upper Alſace, whereof Fribourg and Briſac are the chief towns.

BRISTLE, a rigid gloſſy kind of hair, found on ſwine, and much uſed by bruſh-makers, *&c.*

Briſtles, rough and undreſſed, pay a duty of 1 s. $2\frac{36}{100}$d. the dozen pound, whereof 1 s. $\frac{93}{100}$d. is drawn back on exporting them: whereas dreſſed briſtles pay a duty of 2 s. $4\frac{72}{100}$d. the dozen pound; whereof 2 s. $1\frac{87}{100}$d. is drawn back on exportation.

The whiſkers of cats are alſo ſometimes called briſtles; as are the quills of the porcupine.

BRISTOL, a city and port-town of England,

land, ſituated partly in Glouceſterſhire, and partly in Somerſetſhire; weſt longitude 2° 40′, and north latitude 51° 30′. It ſtands on the river Avon, about 115 miles weſt of London, and is a town of the greateſt foreign trade of any in Britain next to London. It is alſo a biſhop's ſee, ſends two members to parliament, and gives the title of earl to the noble family of Harvey.

New BRISTOL, the capital of the county of Bucks, in Penſilvania, about twenty miles north of Philadelphia. It is ſituated on the river Delawar, in 75° weſt long. and 40° 45′ north latitude.

BRISTOL-WATER. Theſe waters are the fourth in degree amongſt the waters which are eſteemed warm. The waters of Bath are the firſt, Buxton the ſecond, and Matlock the third.

Bath waters are beneficial, when the ſecretions from the blood are diminiſhed; Briſtol, when too much increaſed: Bath attenuates powerfully; Briſtol incraſſates: Bath is ſpirituous, and helps defects; Briſtol is more cooling, and ſuppreſſes plenitude, with its conſequences, inflammations and hæmorrhages.

If we may judge of the contents of Briſtol waters, from their effects, which are exceedingly deterſive and healing, they partake chiefly of chalk, *lapis calcarius*, and *calaminaris*, the virtues of which are too dry to cleanſe; they fill ulcers with fleſh, and cicatrize them.

But whatever the ſubſtances are that impregnate them, it is plain they are very ſubtile, and that there is but little of a terreſtrial part in them, from their ſpecific lightneſs above other waters: yet when we conſider how agreeable to the ſight, ſmell and taſte; how clear, pure and ſoft they are; their gentle degree of heat, ſo adapted to ſundry diſeaſes, it muſt be concluded, that thoſe waters do imbibe ſome ſalutary particles in their paſſage through the earth, and from the many cures yearly wrought by them, that they have an undoubted title to a place in the firſt claſs of medicinal waters.

The diſeaſes in which Briſtol waters are properly preſcribed, are internal hæmorrhages, and inflammations, blood-ſpitting, dyſentery, and immoderate flux of the menſes, purulent ulcers of the viſcera: hence in conſumptions, the dropſy, ſcurvy with heat, ſtone, gravel, ſtrangury; the habitual gout, ſcorbutic rheumatiſm, diabetes, ſlow fevers, atrophy, pox, cancer, gleets in both ſexes, king's-evil, &c. in all theſe diſorders, Bath waters are not only improper, but hurtful; they rouſe the too languid, and quicken the too lazy circulation; they allay the heat, and reſtrain the too rapid motion of the blood. Thoſe impregnate the phlegmatic, theſe attemperate the choleric conſtitution. Bath water ſeems to be adapted to the maladies of the ſtomach, inteſtines, and nerves; Briſtol, to thoſe of the lungs, kidneys, and bladder: again, Bath waters are at variance with a milk courſe; and the Briſtol can never be judiciouſly directed, but where that may be joined, with reaſon and ſucceſs.

The Briſtol waters are taken medicinally only during the hot months, as from April to September.

BRITAIN, or GREAT-BRITAIN, the moſt conſiderable of all the european iſlands, lies between 50° and 60° north latitude, and between 2° eaſt longitude, and 6° weſt longitude.

The general diviſion of Britain, is into ſouth and north Britain, or England and Scotland. See ENGLAND and SCOTLAND.

New BRITAIN, a large country of north America, called alſo Terra Labrador, has Hudſon's-bay and ſtrait on the north and weſt; Canada and the river of St. Lawrence, on the ſouth; and the Atlantic ocean, on the eaſt.

It is ſubject to Great-Britain, but yields only ſkins and furs.

BRITANNIC, in a general ſenſe, denotes ſomething belonging to Great Britain; but is more particularly applied to the king, who is ſtiled his Britannic Majeſty.

BRITANY, a province of France, ſurrounded by the engliſh channel and the bay of Biſcay, on the north, weſt, and ſouth; and bounded, on the eaſt, by the province of Orleanois.

BRITE, or BRIGHT, in huſbandry. Wheat, barley, or any other grain, is ſaid to brite, when it grows over ripe, and ſhatters.

BRITISH, ſomething belonging to Great Britain: thus, we ſay, the britiſh empire, britiſh iſlands, &c.

The britiſh empire comprehends all the dominions belonging to Great-Britain, in whatever part of the world; but the term ſeems to be more eſpecially uſed for the britiſh plantations in North America.

Under the deſignation of britiſh iſlands are comprehended, Great-Britain, Ireland, and the iſles of Wight, Scilly,

Man,

Man, &c. alſo the Orkney-iſlands, the Schetland-iſlands, and the weſtern-iſlands of Scotland. See the articles BRITAIN, IRELAND, &c.

BRITTLENESS, that quality of bodies, on account of which they are denominated brittle; or, which ſubjects them to be eaſily broken.

Brittle bodies are likewiſe very hard and durable, barring accidents; and it is remarkable, that tin, tho' tough in itſelf, makes all other metals brittle, when mixed with them.

BRIXEN, a city of Tyrol, in Germany, about fifty miles north-eaſt of Trent: eaſt long. 11° 45′, north lat. 46° 45′.

BRIZA, in botany, a genus of the triandria-digynia claſs of plants, whoſe corolla is compoſed of two valves; the lower valve is of the ſize and ſhape of the cup; the upper valve is ſmall, plane, and roundiſh, ſhutting up the hollow of the other: the corolla, ſerving in the place of a pericarpium, incloſes the ſeed, and when ripe, dropping it out: the ſeed is ſingle, very ſmall, roundiſh and compreſſed.

BRIZE, in huſbandry, denotes ground that has lain long untilled.

BRIZE-VENTS, ſhelters uſed by gardeners who have not walls on the north ſide, to keep cold winds from damaging their beds of melons. They are incloſures about ſix or ſeven feet high, and an inch or more thick; made of ſtraw, ſupported by ſtakes fixed into the ground, and props acroſs on both inſide and outſide; and faſtened together with willow-twigs, or iron-wire.

BROADALBIN, a diſtrict or country of Perthſhire, in Scotland, bordering upon Argyleſhire: it gives the title of earl to a branch of the noble family of Campbell.

BROADSIDE, in the ſea-language, denotes a volley of cannon, or a general diſcharge of all the guns on one ſide of a ſhip at once.

BROCADE, or BROCADO, a ſtuff of gold, ſilver, or ſilk, raiſed and enriched with flowers, foliages, and other ornaments, according to the fancy of the merchants, or manufacturers.

Formerly the word ſignified only a ſtuff, wove all of gold, both in the warp and in the woof, or all of ſilver, or of both mixed together; thence it paſſed to thoſe of ſtuffs in which there was ſilk mixed, to raiſe and terminate the gold or ſilver flowers: but at preſent all ſtuffs, even thoſe of ſilk alone, whether they be grograms of Tours or of Naples, ſattins, and even taffeties or luſtrings, if they be but adorned and worked with ſome flowers, or other figures, are called brocades.

BROCADE-SHELL, the engliſh name of the coronated cylindrus, of a ſilvery white colour, variegated with brown. See plate XXXII. fig. 3. and the article CYLINDRUS.

BROCATEL, or BROCADEL, a kind of coarſe brocade, chiefly uſed for tapeſtry. See the article BROCADE.

BROCCOLI, a kind of cabbage cultivated for the uſe of the table, the manner of dreſſing which is this: when their heads are grown to their full bigneſs, they are to be cut off, with about four inches of the tender ſtem; the outer ſkin is then to be ſtripped off the ſtem, after which they are to be waſhed, and boiled in a clean linen cloth, as is practiſed for cauliflowers. They are tenderer than any cauliflower, tho' very like them in taſte.

BROCK, among ſportſmen, a term uſed to denote a badger.

A hart too of the third year is called a brock, or brocket; and a hind of the ſame year, a brocket's ſiſter.

BRODERA, or BRODRA, a city of Aſia, in the country of the mogul and kingdom of Guzurat, where there is a great trade in cotton cloths: eaſt longitude 73° 30′, north latitude 22° 25′.

BROGLIO, a town of Piedmont, in Italy, ſituated near the frontiers of Provence, about twenty-five miles north-weſt of Nice; eaſt longitude 6° 42′, and north latitude 44° 12′.

It is the capital of a country of the ſame name.

BROKEN, in a general ſenſe, denotes ſomething divided into ſeveral parts. Hence, Broken numbers are the ſame with fractions. See the article FRACTION.

BROKEN RAY, the ſame with ray of refraction. See the article REFRACTION.

It is thus called, becauſe, in croſſing the ſecond medium, the ray of incidence changes its rectitude; being refracted, or broken, as it were.

BROKEN WIND, among farriers, is a malady that happens to a horſe when he is ſuffered to ſtand too long in the ſtable, without exerciſe: by this means he contracts groſs and thick humours in ſuch abundance, that adhering to the hollow parts of his lungs, they ſtop his windpipe.

This diftemper is known by the horfe's heaving and drawing up his flanks together, and blowing wide his noftrils.

To cure this diforder, take the guts of a hedge-hog, dry them, and pound them to powder, and give the horfe two or three fpoonfuls of it in a pint of wine or ftrong ale; then mix the reft with anif-feed, liquorice, and fweet butter, of which make round balls, or pills, and give him two or three of them after drink, and let him faft two or three hours.

BROKER, a name given to perfons of feveral and very different profeffions, the chief of which are exchange-brokers, ftock-brokers, pawn-brokers, and brokers, fimply fo called, who fell houfhold furniture, and fecond-hand apparel.

Exchange-BROKERS are a kind of agents, or negociators, who contrive, propofe, and conclude bargains between merchants, and between merchants and tradefmen, in matters of bills of exchange, or merchandize, for which they have fo much commiffion. Thefe, by the ftatute of 8 and 9 William III. are to be licenfed in London by the lord-mayor, who gives them an oath, and takes bond for the faithful execution of their offices. If any perfon fhall act as broker, without being thus licenfed and admitted, he fhall forfeit the fum of 500 l. and perfons employing him 5 l. and brokers are to regifter contracts, *&c.* under the like penalty: alfo brokers fhall not deal for themfelves, on pain of forfeiting 200 l. They are to carry about with them a filver medal, having the king's arms, and the arms of the city, and pay 40 s. a year to the chamber of the city. The exchange brokers make it their bufinefs to know the alteration of the courfe of exchange, to inform merchants how it goes, and to give notice to thofe who have money to receive, or pay, beyond fea; they are the proper perfons for negociating the exchange, and when the matter is accomplifhed, that is, when the money for the bill is paid, and the bill delivered, they have for brokerage 2 s. for 100 l. fterling.

They reckon at Paris, among the city officers, who are employed under the jurifdiction of the provoft of the merchants, and *echevins*, or aldermen, three forts of brokers.

1. The brokers of horfes for the carriage of merchandize by water; they are eftablifhed for the navigation, and take care to examine the horfes ufed to draw the boats up the river; to fet the horfes together, to oblige the carriers to repair their boats, or to break fuch as are no longer fit to ferve.

2. Sworn wine-brokers on the keys, to examine and tafte all the wine that arrives there.

3. Brokers of bacon and lard. Thefe are eftablifhed to examine thofe forts of merchandizes, as they are landed or unloaded, and to anfwer for their goodnefs to the buyer, and to the feller, for the price of his wares.

Stock-BROKERS are thofe who are employed to buy and fell fhares in the joint ftock of a company, or corporation.

As the practice of ftock-jobbing has been carried on to fuch an excefs as became not only ruinous to a great number of private families, but even affected, or at leaft might foon affect, the public credit of the nation, the legiflature thought fit to put a ftop to it, or at leaft to bring it within certain bounds, and under fome regulation, by ftatute 7 Geo. II. c. viii. fect. 1.

Pawn-BROKERS. Thefe are perfons who keep fhops, and lend money upon pledges to neceffitous perfons, and moft commonly at an exorbitant intereft. They are more properly ftiled pawn-takers, or tally-men, fometimes fripers, or friperers. Thefe are meant in 1 Jac. 1. cap. xxi. fect. 5. where it is declared, that the fale of goods wrongfully taken to any broker, or pawn-broker in London, Weftminfter, Southwark, or within two miles of London, does not alter the property.

And fect. 7. If a broker, having received fuch goods, fhall not, upon requeft of the owner, difcover them, how and when he came by them, and to whom they are conveyed, he fhall forfeit the double value thereof, to be recovered by action of debt, *&c.*

In the cities of Italy, there are companies eftablifhed by authority for the letting out money on pawns, called mounts of piety; a title little becoming fuch inftitutions, as the loan is not gratis. In fome parts of Italy, they have alfo mounts of piety of another kind, wherein they only receive ready money, and return it again with intereft, at a certain fum *per annum*.

At Bologna they have feveral fuch mounts, which are diftinguifhed into frank and perpetual; the intereft of the former

former is only four *per cent.* that of the latter, feven.

BROKERS are alfo thofe who fell old houfehold furniture, and wearing apparel, &c.

BROKERAGE, the fee paid to a broker for his trouble in negociating bufinefs between perfon and perfon. See BROKER.

BROMELIA, in botany, a genus of the hexandria monogynia clafs of plants, the calyx of which is a fmall three-cornered permanent perianthium, fitting upon the germen: the corolla confifts of three erect, narrow, fpear-fhaped petals, longer than the cup. The fruit is a roundifh umbilicated berry, the feeds are numerous, oblong, obtufe, and incumbent. This genus comprehends the ananas, pinguin, and karatas, of former botanifts. See the articles ANANAS, &c.

BROMESGROVE, a market-town in Worcefterfhire, about ten miles north of Worcefter; weft longitude 2° 5′, and north latitude 52° 26′.

BROMLEY, a market-town of Kent, ten miles fouth-eaft of London; eaft longitude 5′, north latitude 51° 25.

BROMLEY is alfo the name of a market-town of Staffordfhire, about ten miles eaft of Stafford: weft longitude 1° 50′, and north latitude 52° 45′.

BROMUS, in botany, a genus of the triandria-digynia clafs of plants. The flower confifts of two valves of an ovato-oblong figure; the lower one is the larger, and emits a ftrait arifta; above the infertion of this arifta it is bifid: the upper valve has no arifta. The fruit is nothing but the corolla that covers every way a fingle oblong feed, convex on one fide, and hollowed on the other. A decoction of the root of this plant is recommended for the worms in children.

BRON, or BRONNO, a town of the territory of Pavia, in the Milanefe in Italy, fituated on the fouth fide of the river Po, about twelve miles fouth of Pavia; eaft longitude 10°, north latit. 44° 50′.

BRONCHIA, in anatomy, the ramifications of the trachea.

The bronchia, in their origin, are formed of imperfect annuli, and in their progrefs of cartilaginous and membranous fruftæ, very curioufly connected and joined together. Thefe have their origin from the trachea; and after being fubdivided into innumerable ramifications, finally terminate in thofe fmall veficles which form the greater part of the fubftance of the lungs. Thefe veficles have interftices all the way between them, and adhere, as it were, to the branches of the bronchia, in the manner of clufters of grapes. See the article LUNGS.

BRONCHIAL ARTERY, a veffel allotted to the nutrition of the lungs.

It rifes fometimes fingle, fometimes double, fometimes triple, from the aorta and intercoftals, and adheres every where firmly to the bronchia.

BRONCHIAL VEIN arifes either from the intercoftals, or from the vena azygos; accompanies the artery, and divides into the fame number of branches with it. As the artery brings blood to the bronchia for the nutrition thereof, and of the veficles of the lungs, fo the vein carries off the blood again to the cava, where it foon terminates.

BRONCHOCELE, in furgery, a tumour arifing in the anterior part of the neck, from the refifting flatus or air, fome humour or other violence, as ftraining in labour, lifting of weights, &c. This diforder with us is frequently called a Derby-neck, on account of the inhabitants of that county being much fubject to it; probably for the fame reafons that the inhabitants about the valleys of the Alps, and other mountainous countries, are fo much affected with it; namely, the air or waters of the country. But it has not been yet explained, in what manner they operate to produce thefe effects. This tumour, when once become inveterate, is very difficultly, if ever, curable by medicines; but may be difperfed, if it is recent. A leaden collar, mixed with mercury, prevents it from growing bigger, if it does not intirely difperfe it. Some advife to rub it well with the hand or a bone of a dead man, and others direct to other fuperftitious means; but the moft celebrated remedy is one that is fold at Coventry, and kept a fecret by the preparer. It is ordered to be laid under the tongue, every night upon going to bed.

BRONCHOTOMY, in furgery, an incifion made in the afpera arteria, or windpipe, which is neceffary in many cafes, and efpecially in a violent quinfey, to prevent fuffocation from the great inflammation or tumour of the parts. It is alfo called laryngotomy and tracheotomy.

There are feveral methods of performing this operation; but that which exceeds the reft, as being moft eafy and expeditious, and occafioning the leaft wound

 and

and pain to the patient, is by an inftrument confifting of a fmall tube, in which is contained a triangular needle called a trochar. This inftrument is fo managed, as to pafs through the middle of the trachea by one pufh; and after drawing out the needle from the tube, the latter is left in the wound, till the patient recovers. Bronchotomy fhould be performed in time, while there is fufficient ftrength and hopes of the patient's recovery; for when the patient is fpent, it is ufually performed in vain. If a drowned perfon has but juft expired, or not continued long under water, the moft certain and expeditious way of recovering him, will be by opening the trachea with fuch inftrument as is neareft at hand, and afterwards to inflate or blow into his lungs, either with the naked mouth, or with a tube.

BRONCHUS, βρογχος, according to Galen, is the afpera arteria which reaches from the larynx to the lungs, confifting of the bronchia. See the article BRONCHIA. Sometimes it is put for the whole afpera arteria; and Hippocrates ufes it to fignify the throat.

BRONTIUM, βροντειον, in grecian antiquity, a place underneath the floor of the theatres, in which were kept brazen veffels full of ftones and other materials, with which they imitated the noife of thunder.

BRONTOLOGY denotes the doctrine of thunder, or an explanation of its caufes, phænomena, &c. together with the prefages drawn from it. See THUNDER.

BRONZE, a compound metal, two thirds of which confifts of copper, and one third of brafs.

In order to render it more folid, it is ufual to put a little more than one third of brafs, to which is added fome fine tin.

BRONZES, a name given by antiquarians to figures either of men or beafts, to urns, and, in general, to every piece of fculpture which the antients made of that metal. We likewife give the name of bronzes to ftatues, bufts caft of bronze, whether thefe pieces be copies of antiques, or original fubjects.

Among medallifts, all copper metals bear the name of bronze.

BRONZING, the art of imitating bronze, which is done by means of copper duft or leaf faftened on the outfide, as gold leaves are in gilding. There are two forts of this colour, the red and the yellow, or golden. The latter is made folely of copper duft, the fineft and brighteft that can be had; in the former is added a little quantity of red oker well pulverifed; they are both applied with varnifh, and to prevent their turning greenifh, the work muft be dried over a chaffing-difh, as foon as bronzed. See the article VARNISH.

BROOD, the young of fifh and fowls.

The brood of fea-fifh is fpawned, and lies in ftill waters, where it may have reft to receive nourifhment, and grow to perfection; and here it is often deftroyed by weirs, draw-nets, or nets with canvas or like engines in the bottoms of them, in harbours, havens, and creeks. Every weir, near the main fea, takes, in twelve hours, fometimes five bufhels, fometimes twenty or thirty.

BROOK, a little, river, or fmall current of water.

A brook is diftinguifhed from a river infomuch, as a river flows at all times, whereas a brook flows at fome particular feafons only.

BROOK-LIME, in botany, the englifh name of the water anagallis. See ANAGALLIS.

Brook-lime is moderately hot and moift, and faid to be good for cleanfing the blood; and, confequently, recommended againft the fcurvy, dropfy, and ftone.

BROOK-LIME is alfo the Englifh name of the lateral clufter-flowered veronica, with oval leaves and creeping ftalks. See the article VERONICA.

BROOM, *genifta*, in botany. See the article GENISTA.

Many gather the yellow buds of this plant, and pickle them with falt and vinegar, in the fame manner as capers, from which they are not then to be diftinguifhed; the flowers are moft in ufe, and are accounted fplenetic, nephritic, and hepatic.

Broom is extremely pernicious to arable and pafture lands; and therefore ought, by all means, to be rooted up, which is the only method of killing it. On barren grounds, indeed, it is a good improvement; for befides its ufe as fuel, it makes an excellent and lafting thatch, if well laid on.

Butcher's-BROOM, the englifh name of a genus of plants, called by botanifts rufcus. See the article RUSCUS.

Spanifh BROOM, in botany, the fpartium of authors. See the article SPARTIUM.

This is an extremely beautiful fhrub, which fometimes grows to an incredible height.

BROOM-RAPE, in botany, the orobanche of botanifts. See OROBANCHE.

BROOMING, or BREAMING *of a fhip*, the wafhing

washing and burning off all the filth that she has contracted on her sides with weeds, straw, broom, or the like, when she is on the careen, or on the ground. See the article CAREENING.

BROSSÆA, in botany, a genus of plants mentioned by Plumier, the calyx of which is a perianthium, formed of a single leaf, divided into five segments, which terminate in erect acute points, of the length of the corolla; which is also formed by a single petal, and of a conic figure, the top truncated and undivided; the germen is pentacoccous; the style is subulated, and shorter than the corolla; the stigma simple; the fruit is a round capsule, divided by five furrows, containing five cells; the seeds are numerous and small.

BROTHER, *frater*, a term of relation between male children, sprung from the same parents, or from the same father, or the same mother.

The antients use the term brother, indifferently, to almost all who stood related in the collateral line, as uncles and nephews, cousins-german, &c.

According to the laws of Moses, the brother of a man, who died without children, was obliged to marry the widow of the deceased, in order to raise up children to him, that his name and memory might not be extinct. See the article WIDOW.

Among us, it is customary for kings to give the title brother to each other.

In the civil law, brothers, *fratres*, in the plural number, sometimes comprehends sisters.

Brother is also a customary term for priests of the same persuasion to address one another by: but it is more particularly used to denote the relation between monks of the same convent, as brother Zachary: In english, we more usually say, friar Zachary, from the french word *frere*, brother: preachers also call their hearers, my brethren, or my dear brethren; and sometimes they use the singular number, and say, my brother, or my dear brother. This appellation is borrowed from the primitive christians, who all called each other brothers: but it is now principally used for such of the religious as are not priests; those in orders are generally honoured with the title of father, whereas the rest are only simply brothers.

Lay-BROTHERS. See the article LAY.

In the military orders, the knights are also called brothers.

In the order of Malta, there is a particular class who are called serving brothers, consisting of such as cannot give proof of their nobility.

BROTHERS-GERMAN, *fratres germani*. See the article GERMAN.

BROTHERS by adoption. See ADOPTION.

Two brothers, who have only the same father, are called *fratres consanguinei*; and those who are only descended from the same mother, are called *fratres uterini*.

BROTHERS *of the rosy-cross*. See the article ROSYCRUCIAN.

Sworn BROTHERS, *fratres conjurati*. See the article FRATRES.

BROUAGE, a fortress in the territory of Santoign, in France, situated on a bay of the sea, about eighteen miles south of Rochelle; west longitude 1°, and north latitude 45° 50′.

BROUERSHAVEN, a port town of Zeland, in the united Netherlands, situated on the north side of the island of Schonen, about nine miles south-west of Helvoetsluys; east longitude 3° 55′, and north latitude 51° 50′.

BROW, or EYE-BROW, an hairy arch extended over the orbit of each eye.

The eye-brows are composed of hairs of a peculiar kind and a determinate length, all turned toward the temples; and under these, is a thick skin and some fat, by means of which they are raised and become more eminent. That part of the eye-brows, where they approach one to another about the root of the nose, is called their head; the opposite extremity is their tail. Their use is to prevent the sweat, trickling from the forehead, getting into the eyes, and for moderating the force of the light from overhead. See the article EYE.

BROW-ANTLER, among sportsmen, that branch of a deer's horn next the head.

BROWALLIA, in botany, a genus of plants of the didynamia-angiospermia class; the flower of which is monopetalous, of a funnel form; the fruit is an ovato-obtuse capsule, with only one cell, divided into four segments at the top, and containing several small seeds.

BROWN, among dyers, painters, &c. a dusky colour, inclining towards redness.

Of this colour there are various shades or degrees, distinguished by different appellations; for instance, spanish-brown, a sad-brown, a tawney-brown, the london brown, a clove-brown, &c.

Spanish-brown is a dark dull red, of a horse-flesh colour. It is an earth, and is

is of great ufe among painters, being generally ufed as the firft and priming colour that they lay upon any kind of timber-work in houfe-painting. That which is of the deepeft colour, and freeft from ftones, is the beft. Though this is of a dirty brown colour, yet it is much ufed not to colour any garment, unlefs it be an old man's gown; but to fhadow vermillion, or to lay upon any dark ground behind a picture, or to fhadow yellow berries in the darkeft places, when you want lake, &c. It is beft and brighteft when burnt in the fire, till it be red hot, although, if you would colour any hare, horfe, dog, or the like, it fhould not be burnt; but, for other ufes, it is beft when it is burnt, as for inftance, for colouring wood, pofts, bodies of trees, or any thing elfe of wood, or any dark ground of a picture.

The method of dying browns is, by entering the cloth in a boiling bath of red wood ground and nut-galls bruifed; and when it has boiled for two hours and a half, and has been cooled and aired, it is entered again in the fame bath, to which a proportionable quantity of copperas muft firft be added. The fadder you would have the brown, the more copperas muft be put in.

BROWN-WORT, in botany, a name given to two very diftinct genufes of plants, the brunella and fcrophularia. See the articles BRUNELLA and SCROPHULARIA.

BROWNISTS, in church-hiftory, a religious fect, which fprung up in England, towards the end of the XVIth century. Their leader was one Robert Brown, born at Northampton. They feparated from the eftablifhed church, on account of its difcipline and form of government. They equally difliked epifcopacy and prefbyterianifm. They condemned the folemn celebration of marriages in churches, maintaining, that matrimony being a political contract, the confirmation of it ought to proceed from the civil magiftrate. They rejected all forms of prayer, and held, that the Lord's prayer was not to be recited as a prayer; being given only as a model, upon which to form our prayers.

BRUCHSAL, a town of the bifhopric of Spires, in the palatinate of the Rhine, in Germany; eaft longitude 8° 30′, and north latitude 49° 15′.

BRUGES, a city and port town of Flanders, eleven miles eaft of Oftend, and twenty-four north-weft of Ghent; eaft longitude 3° 5′, and north latit. 51° 16′. There is a navigable canal from Oftend to Bruges, which has ftill the beft foreign trade of any town in Flanders.

BRUISE, in furgery, the fame with contufion. See the article CONTUSION.

BRUISING, in pharmacy, the crufhing or pounding certain medicines, as roots, woods, &c. in a coarfe manner, to make them yield their virtues the more readily.

BRUMALIA, in roman antiquity, feftivals of Bacchus celebrated twice a year; the firft on the twelfth of the calends of March, and the other on the eighteenth of the calends of November. They were inftituted by Romulus, who, during thefe feafts, ufed to entertain the fenate. Among other heathen feftivals, which the primitive chriftians were much inclined to obferve, Tertullian mentions the brumæ or brumalia.

BRUNELLA, in botany, a genus of the didynamia-gymnofpermia clafs of plants; the flower of which is monopetalous, with a fhort cylindric tube. There is no pericarpium, but the cup contains four feeds, nearly of an oval figure.

The brunella, or felf-heal, is recommended in wounds of the lungs, and externally in the quinfey, and other difeafes of the throat. It is a very ufeful plant in all inflammatory difeafes, in hæmorrhages, dyfenteries, and in fpitting of blood.

BRUNFELSIA, in botany, a genus of plants belonging to the pentandria-monogynia clafs; the flower of which confifts of a fingle petal, of a funnel form; the fruit is a globofe berry, with one cell containing numerous roundifh feeds, placed clofe to the integument of the berry.

BRUNIA, in botany, a genus of the pentandria-monogynia clafs; the flower of which confifts of five petals, with flender ungues of the length of the cup, and roundifh patent bracteæ: there is no pericarpium, but the common receptacle of the fructifications feparates the perianthia by its hairy fquamæ: the feeds are fingle and fomewhat hairy.

BRUNSBUTTEL, a port-town of Holftein, in the circle of Lower Saxony, in Germany, fituated at the mouth of the river Elbe; eaft longitude 8° 42′, and north latitude 54° 10′.

It is fubject to Denmark.

BRUNSWICK, the capital of the dutchy of Brunfwick, in the circle of Lower Saxo-

Saxony, in Germany, ſituated on the river Ocker, about thirty-five miles eaſt of Hanover; eaſt longitude 10° 30′, and north latitude 52° 30′.

The elector of Hanover is ſtiled duke of Brunſwick, though he has no property in, or dominion over, the city of that name, which belongs to the duke of Brunſwick Wolfembuttle.

BRUNT-ISLAND, a parliament-town on the coaſt of Fife, in Scotland, about ten miles north-weſt of Edinburgh; weſt longitude 3°, and north latitude 56° 12′.

BRUSH, an inſtrument made of briſtles, hair, wire, or ſmall twigs to clean cloaths, rooms, *&c.* and alſo to paint with. There are various ſorts of them, diſtinguiſhed by their ſhape or uſe. In the choice of painters bruſhes, obſerve whether the briſtles are faſt bound in the ſtocks, and if the hair be ſtrong and lie cloſe together; for if they ſprawl abroad, ſuch will never work well; and if they are not faſt bound in the ſtock, the briſtles will come out when you are uſing them, and ſpoil your work, as may be ſeen where the looſe hairs of the bruſh have lain up and down in the colours laid on, to the great detriment of the work.

Wire bruſhes are of uſe for ſcrubbing thoſe ſilver, copper, and braſs pieces, which are to be gilded over, in order to clear them perfectly from any dirt, ruſt, or filth, which may adhere to them, and, if not bruſhed off, would hinder the cloſing of the gold with them. They are therefore uſed by gilders, ſilverſmiths, *&c.* and are uſually ſold by ironmongers. Beard bruſhes pay a duty, on importation, of 1 s. $3\frac{40}{100}$ d. the groſs or twelve dozen; whereof 1 s. $1\frac{1}{2}$ d. is drawn back on exporting them. Comb-bruſhes pay 2 s. $6\frac{80}{100}$ d. for the ſame number; and of this 2 s. 3 d. is repaid. Head-bruſhes pay 1 s. $3\frac{40}{100}$ d. the dozen: rubbing-bruſhes $3\frac{8}{100}$ d. the dozen: weavers-bruſhes $11\frac{55}{100}$ d. for the ſame number: in all which a proportionable draw-back is allowed. However, it is to be obſerved, that bruſhes are among the number of goods prohibited to be imported.

BRUSSELS, the capital of the province of Brabant, and of all the auſtrian Netherlands. It is ſituated on the river Senne, and is the ſee of a biſhop; eaſt longitude 4° 6′, and north latitude 50° 50′.

It is a ſtrong fortified town, and agreeably ſituated, which, together with the viceroy's reſidence, occaſions a great reſort of nobility and gentry.

BRUTE, an animal without the uſe of reaſon, or that acts by mere inſtinct, in which ſenſe it denotes much the ſame with beaſt, and comprehends all animals, excepting mankind.

Philoſophers, however, are far from being agreed on this ſubject; ſome making brutes mere machines, whilſt others raiſe them to the level of mankind, and allow them not only reaſon, but immortality. Perhaps thoſe come neareſt the truth, who, taking a middle courſe, allow brutes to have imagination, memory, and paſſion; but deny, that they have underſtanding or reaſon, at leaſt, in any degree comparable to that of mankind.

The ſagacity of many brutes is, indeed, admirable. Elephants, that have once eſcaped the trap, are extremely diſtruſtful ever after, carrying a bough of a tree about with them to try if the ground be ſound, before they will venture to tread on it. Examples of the great ſagacity of dogs, of the fox, and of other brutes, need not be quoted, being too generally known to be denied by the moſt ſceptical. On the other hand, what a prodigious difference is there between the ſagacity of brutes, and the reaſon of mankind? even thoſe who maintain an inſenſible gradation from one order of beings to another, muſt acknowledge that there is a vaſt chaſm here.

BRUTON, a market-town in Somerſetſhire, about ten miles ſouth-eaſt of Wells; weſt longitude 2° 35′, and north latitude 51° 15′.

BRYANSBRIDGE, a town of Ireland, in the county of Clare, and province of Connaught, ſituated on the river Shannon, about eight miles north of Limerick.

BRYONIA, or BRYONY. See the next article.

BRYONY, *bryonia*, in botany, a genus of the monoecia-ſyngeneſia claſs of plants; the flower of which conſiſts of a ſingle petal, divided into five deep ſegments; the fruit is a roundiſh berry, containing a few ſeeds, for the moſt part of an oval figure. See plate XXXII. fig. 5.

The expreſſed juice of the root of this plant, being of a bitter, acrid, and nauſeous taſte, is an attenuant and reſolvent. It powerfully diſſolves viſcid humours, and carries them off by ſtool, and ſometimes

times by vomiting; but it is a rough medicine, and muft be given with great caution. It is given with fuccefs in dropfies, afthmas, hyfteric complaints, and even in palfies and epilepfies.

It is much the more powerful in all thefe intentions, when frefh; but it fhould be corrected with an addition of cream of tartar, vinegar, or fome aromatics.

BRYUM, WALL-MOSS, in botany, a genus of moffes, confifting of a ftalk furnifhed with leaves, which arife immediately from the root: on this ftalk ftands a feparate pedicle, with a conic capfule on its top, covered with a fmooth operculum, and containing a fine powder. See plate XXXII. fig. 6.

The fmoothnefs of the operculum, diftinguifhes the bryum from the polytrichum; and the growing of the pedicles only on the fummits of the branches, diftinguifhes it from the hypnum.

BUBALUS, the BUFFALO, in zoology. See the article BUFFALO.

There is frequent mention of the bubalus in fcripture: Mofes fuffered the Hebrews to eat of it, and it was ferved up at Solomon's table.

BUBBLE, *bullæ*, in philofophy, fmall drops or veficles of any fluid filled with air, and either formed on its furface, by an addition of more of the fluid, as in raining, *&c.* or in its fubftance, by an inteftine motion of its component particles.

Bubbles are dilatable or compreffible, *i. e.* they take up more or lefs room, as the included air is more or lefs heated, or more or lefs preffed from without, and are round, becaufe the included aura acts equally from within, all around; their coat is formed of minute particles of the fluid, retained either by the velocity of the air, or by the brifk attraction between thofe minute parts and the air.

BUBBLE, in commerce, a cant term, given to a kind of projects for raifing of money on imaginary grounds, much practifed in France and England, in the years 1719, 1720, and 1721.

The pretence of thofe fchemes was the raifing a capital for retrieving, fetting on foot, or carrying on fome promifing and ufeful branch of trade, manufacture, machinery, or the like: to this end propofals were made out, fhewing the advantages to be derived from the undertaking, and inviting perfons to be engaged in it. The fum neceffary to manage the affair, together with the profits expected from it, were divided into fhares or fubfcriptions, to be purchafed by any difpofed to adventure therein.

Bubbles, by which the public have been tricked, are of two kinds, *viz.* 1. Thofe which we may properly enough term trading bubbles; and, 2. Stock or fund-bubbles. The former have been of various kinds; and the latter at different times, as in 1719 and 1720.

BUBO, in ornithology, the name by which zoologifts call the great horn-owl, with a reddifh-brown body. See STRIX.

This is an extremely fingular and beautiful bird, about the fize of a goofe, and has much the figure of a cat: the auricles or horns, as they are called, are compofed of a feries of black feathers, rifing to the height of three fingers breadth above the head, and perfectly refembling ears. See plate XXXII. fig. 7.

BUBO, or BUBOE, in furgery, a tumour which arifes, with inflammation, only in certain or particular parts to which they are proper, as in the arm-pits and in the groins. See the article TUMOUR.

The divifion of a bubo is generally twofold, the benign and the malignant: a bubo is faid to be benign, when it arifes fpontaneoufly, without any preceding contagious and peftilential difeafe, as they frequently do in infants: thofe are alfo of this kind, which come after benign fevers, being a critical difcharge of the difeafe: but the malignant are fuch as happen in the peftilence or venereal difeafe, and are therefore commonly termed peftilential or venereal buboes.

With regard to the caufes of benign buboes, they take their rife from an infpiffation and obftruction of the blood, fo that they differ from other inflammations, only in the particular part where they are feated.

In buboes which are unaccompanied with any other difeafe, the frequent taking of fome cathartic medicine, with an addition of merc. dulc. is found to be of great fervice; other medicines, which attenuate the blood, fhould be alfo ufed. When the inflammation is fo gentle, as to give hopes of difperfion, it may be proper to apply difcutient plafters externally, as emplaft. dyachyl. fimplex, de fpermate ceti, de galbano, diafaponis, *&c.*

But if the inflammation proves more violent, the pains more intenfe, and the difcutient

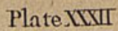


Fig. 1. BOTTONY.

Fig. 2. BRACED.

Fig. 3. BROCADE-SHELL.

Fig. 4. BRAMA, the *BREAM.*

Fig. 5. BRYONY.

Fig. 6. BRYUM.

Fig. 7. BUBO.

T. Jefferys sculp.

cutient plasters avail nothing, it will be proper to bring it to suppuration, by the application of emp. diachylon, cum gummis, or something as effectual. If violent pains also affect the patient, the frequent application of digesting cataplasms warm to the part, will not only mitigate the pain, but also greatly promote a dispersion, or else a digestion and maturation.

Pestilential BUBOS are distinguishable from other tumours, by their happening at a time, and in conjunction with the plague, and from their being accompanied, in the patient, with the symptoms proper to that distemper: these tumours are sometimes joined with carbuncles.

It is not, without reason, affirmed by some of the more learned and modern physicians, that almost the whole business of curing the plague consisted in carefully promoting the eruption of bubos. The patient, upon the first appearance of the tumours, should keep the house, or rather keep in a warm bed, to be more secure from the air.

In the external treatment, it is very serviceable to rub the tumified part pretty strongly with the hands or cloths; and what is still preferable, to apply external maturative and emollient medicines, whereby they will come out the sooner; the patient will also find great benefit from the use of a cataplasm, made ex fermento panis callido, vel solo, vel cum sale atque sinapi contrito. To the external applications, it will be proper to join internal medicines, by the help of which the venom, lurking in the body, may be expelled in a gentle sweat; but such sudorific medicines, as are very strong and heating, have been always found dangerous and pernicious by modern physicians. In some cases, the tumour turns suddenly to suppuration, and in others it remains for some weeks, without being any thing softer. When this is the case, it is necessary to continue the use of the forementioned remedies, till the tumour either breaks of itself, or is fit to be opened, like other abscesses, by incision with the scapel, that the pestilential matter may be discharged, and prevented from returning into the blood.

Venereal BUBO, a tumour with pain and inflammation, arising in the groin or armpits, after contact with an impure woman, who is afflicted with the venereal disease. The most certain signs of bubos being venereal, are, the patients having to do with these women, and from their being, and having been, accompanied with gonorrhœas, chancres, or other symptoms of the venereal disease. With regard to the cure, there are many physicians who hold, that the dispersion of venereal bubos are equally improper, as in the pestilential; they therefore judge it necessary, to abstain entirely from bleeding, purging, and to forward the tumour to suppuration as fast as possible: however, others are for taking cathartic and mercurial medicines, together with a decoction of the woods, and other purifiers of the blood.

The dispersion is to be effected with large doses of merc. dulc. as is usual in carrying off gonorrhœas.

Externally to the tumour should be applied some discutient plasters, as those in the pestilential tumours: the patient should keep a regular diet and course of life, and should abstain from strong liquors.

The suppuration is to be promoted much in the same manner, as mentioned in the benign and pestilential tumour.

The internal medicines should be a decoction of the woods, two or three times a day, from eight to twelve ounces at a time, with thirty or forty drops of essent. lignor. pimpinellæ, albæ fumariæ, &c.

It is to be opened as the pestilential bubo.

BUBON, in botany, a genus of the pentandria-digynia class of plants; the general corolla of which is uniform; the single flowers consist each of five oblong petals, of a lanceolated figure, and inflex; the fruit is naked, oval, striated, hairy, coronated, and separable into two parts; the seeds are two, oval, plane on one side, and on the other convex, striated, and hairy.

BUBONOCELE, or HERNIA INGUINALIS, in surgery, a tumour in the inguen, formed by a prolapsus of the intestines, omentum, or both, through the processes of the peritonæum, and rings of the abdominal muscles.

The bubonocele may arise from two causes, *viz.* a relaxation of the peritonæum and rings of the abdominal muscles, or some violent contraction and pressure of the abdominal muscles upon the intestines, as in jumping, lifting of great weights, coughing, blowing a trumpet, riding on horse-back, a fall, &c.

When this disorder is formed insensibly, and by degrees, it is attended with but few and slight symptoms: when it arises from violent colds, exercises, eating too plenti-

plentifully of grofs and flatulent food, which will exafperate the diforder, the confequence will be violent pain and inflammation, ficknefs, vomiting, and the iliac paffion: it may be farther difcovered from the tumour occafioned thereby in the groin, which proceeds up to the ring of the abdominal mufcles; and when the inteftine is not incarcerated, but returnable into the abdomen, the tumour fubfides upon lying down. When the bubonocele is incarcerated, fo that the parts, forming the tumour, are not returnable into the abdomen, it ufually appears with a greater refiftance to the touch, rednefs, and inflammation.

Thefe ruptures are often attended with danger, efpecially the incarcerated ones; in which, if the inteftine be not timely returned, but the ftricture continues two or three days, red and livid fpots appear upon the tumour, which denote a fphacelus or mortification; and if an univerfal cold fweat feizes the patient, he has generally but a few hours to live. When the omentum alone falls down, there is lefs danger than when it is accompanied with the inteftines.

When the inteftine is returnable, the patient fhould be laid on his back, with his thigh a little bent, to relax the integuments; then the tumour is to be gently preffed, or returned with the hands and fingers, after which a plafter and compreffure are to be applied to the part affected, and retained with a proper trufs, and a girdle or bandage, without taking them off for feveral months, or longer, as there is occafion. See the article TRUSS.

When the inteftine is not returnable, then the operation of incifion becomes abfolutely neceffary, in order to dilate the parts. However, the furgeon may firft try the repeated ufe of cataplafms, ointments, and laxative clyfters, after bleeding; whereby the ftricture is fometimes removed, and the inteftine may be returned by the finger, without much difficulty.

BUCCANEERS, thofe who dry and fmoke flefh or fifh, after the manner of the Americans.

This name is particularly given to the french inhabitants of the ifland of St. Domingo, whofe whole employment is to hunt bulls or wild boars, in order to fell the hides of the former, and the flefh of the latter.

The buccaneers are of two forts: the buccaneers ox-hunters, or rather hunters of bulls and cows; and the buccaneers boar-hunters, who are fimply called hunters; though it feems, that fuch a name be lefs proper to them than to the former; fince the latter fmoke and dry the flefh of wild boars, which is properly called buccaneering, whereas the former prepare only the hides, which is done without buccaneering.

Buccaneering is a term taken from bucan, the place where they fmoke their flefh or fifh, after the manner of the favages, on a grate or hurdle, made of brafil wood, placed in the fmoke, a confiderable diftance from the fire; this place is a hut, of about twenty-five or thirty feet in circumference, all furrounded and covered with palmetto leaves.

BUCCELLARII, an order of foldiery under the greek emperors, appointed to guard and diftribute the ammunition-bread; though authors are fomewhat divided as to their office and quality. Among the Vifigoths buccellarius was a general name for a client or vaffal, who lived at the expence of his lord. Some give the denomination to parafites in the courts of princes, fome make them the body guards of emperors, and fome fancy they were only fuch as emperors employed in putting perfons to death privately.

BUCCINA, an antient mufical and military inftrument. It is ufually taken for a kind of trumpet, which opinion is confirmed by Feftus, by his defining it a crooked horn, played on like a trumpet. Vegetius obferves, that the buccina bent in a femicircle, in which refpect it differed from the tuba or trumpet. It is very hard to diftinguifh it from the cornu or horn, unlefs it was fomething lefs, and not quite fo crooked; yet it certainly was of a different fpecies, becaufe we never read of the cornu in ufe with the watch, but only the buccina. Befides, the found of the buccina was fharper, and to be heard much farther, than either the cornu or the tuba. In fcripture, the like inftrument, ufed both in war and in the temple, was called rams-horns, kiren-jobel, and fopheroth hagijobelim.

BUCCINATOR, in anatomy, a mufcle on each fide of the face, common to the lips and cheeks. The origin of the buccinator is partly from the anterior and lower part of the coronoide procefs of the lower jaw, and partly about the roots of the pofterior dentes molares of both jaws. Its progrefs, as the head is erect, is nearly horizontal; its termination is at the angle of the lips. Its ufes are to bring the food into the way of the teeth, and

the falival duct of Steno perforates it in the middle.

BUCCINUM, the TRUMPET-SHELL, a genus of univalve fhells, fhaped, in fome degree, like a horn, or other wind-inftrument: the belly of the fhell is diftended, the aperture of the mouth is large, wide, and elongated, the tail is more or lefs long, and the clavicle more or lefs exterted.

This is a very numerous genus, the principal fpecies of which are the fpindle-fhell, the mitre-fhell, the midas-ear-fhell, the great triton-fhell, the tower of Babel-fhell, &c. See plate XXXIII. fig. 1. where n° 1. reprefents the mitre-fhell; n° 2. the rough buccinum; and n° 3. the tower of Babel-fhell.

BUCENTAUR, a galeas, or large galley of the doge of Venice, adorned with fine pillars on both fides, and gilt over from the prow to the ftern. This veffel is covered over head with a kind of tent, made of purple filk. In it the doge receives the great lords and perfons of quality that go to Venice, accompanied with the ambaffadors and counfellors of ftate, and all the fenators feated on benches by him. The fame veffel ferves alfo in the magnificent ceremony of afcenfion day, on which the doge of Venice throws a ring into the fea to efpoufe it, and to denote his dominion over the gulph of Venice.

Bucentaur is alfo the name of a fhip, as great and as magnificent as that of the Venetians, built by order of the elector of Bavaria, and launched on a lake, which is fix leagues in length.

BUCEPHALON, in botany, a genus of plants, the clafs of which is not yet fully afcertained. There is no corolla: the fruit is an oval, but fomewhat quadrangular berry, with one cell, containing a brittle feed.

BUCEROS, in ornithology, a genus of birds of the order of the picæ, common in feveral parts of the Eaft-Indies: the beak towards its bafe has a large gibbofity rifing above the reft of its furface, and turning backwards at the point; and the upper chap of the beak is in this genus confiderably longer than the under. This genus comprehends no lefs than three fpecies, the black buceros with a great head, or the Indian raven, &c.

BUCHAN, a country or diftrict of Aberdeenfhire, in Scotland: it gives the title of earl to the noble and antient family of Erfkine.

BUCHAW, an imperial city of Swabia, in Germany, about twenty-five miles fouth-weft of Ulm: eaft long. 9° 40′, and north lat. 48° 5′.

BUCHNERA, in botany, a genus of the didynamia-angiofpermia clafs of plants; the flower of which is monopetalous, with five equal and obverfely cordated fegments at its edge; the fruit is an ovato-oblong capfule, with two cells divided at the top, and containing numerous angulated feeds.

BUCHOREST, a town of Wallachia, fubject to the Turks; eaft longitude 26° 30′, and north latitude 44° 20′.

BUCHORN, a city of Swabia, in Germany, fituated on the eaft fide of the lake of Conftance, and about twelve miles eaft of the city of Conftance: eaft long. 9° 20′, and north lat. 47° 40′.

BUCK, among fportfmen, in his firft year, is called a fawn; the fecond, a pricket; the third, a forel; the fourth, a fore; the fifth, a buck of the firft head; and the fixth, a great buck. This beaft is common in moft countries, being corpulent as a hart, but in fize refembling more a roe, except in colour: the males have horns, which they lofe yearly; the females none at all. As for the colour, it is very different; however, they are moftly branded and fandy, with a black lift all along the back. Their flefh is excellent for nourifhment.

BUCK-HUNTING. Lefs art and fkill are required in lodging a buck, than in harbouring a hart; nor does there need fo much drawing after: it is fufficient that you judge by the view, and mark what grove or covert he enters. When hard hunted, he ufually takes to fome ftrong hold he is acquainted with; not flying before the hounds, nor croffing, nor doubling, nor ufing any of the fubtileties the hart is accuftomed to. The buck herds more than the hart does, and chufes to lie in the drieft places. He groans and trots as the hart belleth, and with a worfe noife and rattling in the throat, leaps higher at the rut than the ftag. The bucks mew or fhed their horns every year about April or May; and their new ones are burnifhed about the end of Auguft. They make their fewmifhings in divers forms, according to the diverfity of food; but they are moft commonly round.

Now the greateft care of the huntfman muft be employed in preventing the hunting counter or change, becaufe of the

the plenty of fallow deer, which use to come more directly upon the hounds, than the red deer do. The buck comes in season the 8th of July, and goes out the 14th of September.

Buck-bean, in botany, the *trifolium paluſtre*, or marſh trefoil of authors. See the article Trefoil.

Buck's-horn plantain, the coronopus of botanical writers. See Coronopus.

Buck-mast denotes the maſt of the beech-tree. See the article Beech.

Buck-thorn, the engliſh name of the rhamnus of botaniſts. See Rhamnus.

BUCKET, a ſmall portable veſſel to hold water, often made of leather for its lightneſs and eaſy uſe in caſes of fire.

It is alſo the veſſel let down into a well, or the ſides of ſhips, to fetch up water.

BUCKING, the firſt operation in the whitening of linen-yarn or cloth: it conſiſts in pouring hot water upon a tubful of yarn, intermingled with ſeveral ſtratums of fine aſhes of the aſh-tree. See the article Bleaching.

BUCKINGHAM, a borough town of Buckinghamſhire, about forty-ſix miles north-weſt of London: weſt longitude 1°, and north latitude 51° 50'.

It ſends two members to parliament.

Buckinghamſhire has Northamptonſhire on the north; Bedfordſhire, Hertfordſhire, and Middleſex, on the eaſt; Berkſhire, from which it is divided by the river Thames, on the ſouth; and Oxfordſhire, on the weſt.

BUCKLE, a well known utenſil, made of divers ſorts of metals, as gold, ſilver, ſteel, braſs, &c.

The faſhion, or form, of buckles is various; but their uſe, in general, is to make faſt certain parts of dreſs, as the ſhoes, garters, &c.

Buckles for girdles pay a duty of 3 s. $10\frac{20}{100}$ d. the groſs, or twelve dozen; whereof 1 s. $4\frac{1}{2}$ d. is drawn back on exportation. Buckles for girts pay likewiſe a duty of 1 s. $5\frac{32}{100}$d. the groſs; and both theſe pay ſomewhat more if of braſs. But it is to be obſerved, that all buckles are prohibited to be imported.

BUCKLER, a piece of defenſive armour uſed by the antients. It was worn on the left arm, and compoſed of wickers woven together, or wood of the lighteſt ſort, but moſt commonly of hides, fortified with plates of braſs or other metal. The figure was ſometimes round, ſometimes oval, and ſometimes almoſt ſquare. Moſt of the bucklers were curiouſly adorned with all ſorts of figures of birds and beaſts, as eagles, lions; nor of theſe only, but of the gods, of the celeſtial bodies, and all the works of nature; which cuſtom was derived from the heroic times, and from them communicated to the Grecians, Romans, and Barbarians.

Votive Bucklers. Thoſe conſecrated to the gods, and hung up in their temples, either in commemoration of ſome hero, or as a thankſgiving for a victory obtained over an enemy; whoſe bucklers, taken in war, were offered as a trophy.

BUCKNHAM, or Buckenham, a market-town of Norfolk, about nine miles eaſt of Thetford; eaſt longitude 1° 10', north latitude 52° 30'.

BUCKOR, a province of the Eaſt-Indies, ſituated on the river Indus, having the province of Multan on the north, and Tatta on the ſouth.

BUCKRAM, in commerce, a ſort of coarſe cloth made of hemp, gummed, calendered, and dyed ſeveral colours. It is put into thoſe places of the lining of a garment, which one would have ſtiff and to keep their forms. It is alſo uſed in the bodies of women's gowns; and it often ſerves to make wrappers to cover cloths, ſerges, and ſuch other merchandizes, in order to preſerve them and keep them from the duſt, and their colours from fading. Buckrams are ſold wholeſale by the dozen of ſmall pieces or remnants, each about four ells long, and broad according to the pieces from which they are cut. Sometimes they uſe new pieces of linen cloth to make buckrams, but moſt commonly old ſheets and old pieces of ſails.

Carrick buckram pays a duty of $5\frac{74}{100}$d. the ſhort piece; whereof $5\frac{17}{100}$d. is repaid on exporting it. Eaſt-country buckram pays 1 s. $2\frac{36}{100}$d. the roll, or half piece; whereof 1 s. $\frac{93}{100}$d. is drawn back. French buckram pays 1 l. 13 s. $10\frac{12}{100}$d. the dozen pieces; whereof 1 l. 10 s. $1\frac{87}{100}$d. is repaid. Fine german buckram pays 2 s. $4\frac{72}{100}$d. the piece; whereof 2 s. $1\frac{87}{100}$d. is drawn back on exportation.

BUCOLIC, in antient poetry, a kind of poem relating to ſhepherds and country-affairs, which, according to the moſt generally received opinion, took its riſe in Sicily. Bucolics, ſays Voſſius, have ſome conformity with comedy. Like it, they are pictures and imitations of ordinary life; with this difference, however, that comedy

comedy represents the manners of the inhabitants of cities, and bucolics, the occupations of country people. Sometimes, continues he, this last poem is in form of a monologue, and sometimes of a dialogue. Sometimes there is action in it, and sometimes only narration; and sometimes it is composed both of action and narration. The hexameter verse, is the most proper for bucolics in the greek and latin tongues. Moschus, Bion, Theocritus and Virgil, are the most renowned of the antient bucolic poets. See the articles ECLOGUE and IDYLLION.

For the nature of this kind of poem, and the stile and subjects which it requires, see the article PASTORAL.

BUD, among gardeners, that part of a seed which first begins to sprout, or rather the leaves first put forth: these in some plants are two; in others, four; and in others again, six, or even more.

BUD is also used for the sprout from whence a branch arises. See BRANCH.

BUD, in country-affairs, likewise denotes a weaned calf of the first year; so called, because the horns are then in the bud.

BUDA, the capital of lower Hungary, about 130 miles south-east of Vienna: it stands on the side of a hill, on the south-west side of the Danube, and is well fortified and defended by a castle, esteemed one of the strongest fortresses in Hungary; east longitude 19° 20′, and north latitude 47° 40′.

BUDDESDALE, a market-town of Suffolk, about thirteen miles north-east of Bury; east longitude 1° 10′, and north latitude 52° 25′.

BUDDLE, in mineralogy, a large square frame of boards, used in washing the tin ore. See the article WASHING *of Ores*.

BUDDLEIA, in botany, a genus of the tetrandria-monogynia class of plants, the flower of which consists of a single petal, lightly divided into four oval, acute segments, and three times as large as the cup. The fruit is an oval, oblong capsule bisulcated, with two cells, containing numerous and very small seeds.

BUDDLING, the act of cleansing, or washing any ore. See WASHING *of Ores*.

BUDDLING-DISH is a small, shallow vessel, for the washing ores with the hand.

BUDGE-BARRELS, among engineers, small barrels well hooped, with only one head; on the other end is nailed a piece of leather, to draw together upon strings like a purse. Their use is for carrying powder along with a gun or mortar, being less dangerous, and easier carried, than whole barrels. They are likewise used upon a battery of mortars, for holding meal powder.

BUDINGEN, the capital of a county of the same name in Germany, situated in the circle of the upper Rhine, about twenty miles north-east of Francfort.

BUDOA, a city of Dalmatia, situated on the gulph of Venice, in 19° 20′ east long. and 42° 15′ north lat.

It is a bishop's see.

BUDWEIS, a town of Bohemia, situated on the river Muldaw, about sixty-five miles south of Prague; east longitude 14° 20′, north latitude 49°.

BUDZIAC TARTARY, a country subject to the Turks, situated on the rivers Neister, Bog, and Nieper; having Poland and Russia, on the north; little Tartary, on the east; the black sea on the south; and Bessarabia, on the west.

BUENOS-AYRES, one of the most considerable spanish ports on the east coast of South America, situated on the southern shore of the river Plata, and about fifty leagues from its mouth; and yet here the river is full seven leagues broad; west long. 60°, south lat. 36°.

It is a strong fortified town.

BUFF, in commerce, a sort of leather prepared from the skin of the buffalo, which dressed with oil, after the manner of shammy, makes what we call buff-skin. This makes a very considerable article in the french, english, and dutch commerce at Constantinople, Smyrna, and all along the coast of Africa. The skins of elks, oxen, and other-like animals, when prepared after the same manner as that of the buffalo, are likewise called buffs.

Of buff-skin, or buff-leather, are made a sort of coats for the horse, or gens d'arms of France, bandaliers, belts, pouches and gloves.

In France, there are several manufactories designed for the dressing of those sort of hides, particularly at Corbeil, near Paris; at Niort, at Lyons, at Rone, at Etanepus, at Cone. The manner of preparation, see under the article SHAMMY.

BUFFALO, *bubalus*, in zoology, an animal of the ox-kind, with very large, crooked, and resupinated horns. See plate XXXII. fig. 2.

It is equal in size to our biggest oxen: the head is very large, the forehead remarkably broad, and the aspect very fierce and terrible: the eyes are large and prominent, the ears long and patulous, the

horns

horns very thick at the base, but sharp at the point: the neck is thick and remarkably short; the flesh hangs very loose under the throat: the body is more bulky in proportion than in our bull; and the legs are thicker, but about equal in length. The colour is usually a blackish grey: but in this there is a great variety. The buffalo is a native of the east, but has been introduced into Italy, and some other parts of Europe, where it is kept as a beast of burden and draught.

The buffalo affords for trade, his horns, his hide, and his hair. Of the horns are made several turner's works, particularly beads for chaplets and snuff-boxes, which are pretty much valued. The hair being separated from the hide, by means of lime, is used as a sort of flocks. As to the hide, see the preceding article BUFF.

BUFFET was antiently a little apartment separated from the rest of the room by slender wooden columns, for the disposing of china, glass-ware, &c.

It is now properly a large table in a dining-room, called also a side-board, for the plate, glasses, bottles, basons, &c. to be placed on, as well for the service of the table, as for magnificence. In houses of persons of distinction in France, the buffet is a detached room, decorated with pictures relative to the subject, with fountains, cisterns and vases. It is commonly faced with marble or bronze.

BUFFOON, a droll or mimic who diverts the public by his pleasantries and follies.

BUFONIA, in botany, a genus of the diandria digynia class of plants, the calyx of which is a permanent perianthium, consisting of four erect, subulated, carinated leaves; the corolla consists of four oval, linear, entire, erect, equal petals, shorter than the cup: the fruit is an oval compressed capsule, consisting of two valves, and containing one cell, in which are two oval compressed seeds.

BUFONITÆ, in natural-history, a kind of extraneous fossils, otherwise called lycodontes, or wolf's teeth. See the article LYCODONTES.

BUG, a river, which, taking its rise in red Russia in Poland, runs northward to Breste; and then, turning westward, falls into the Weisel, or Vistula, below Warsaw.

BUG, or BUGG, in zoology, the english name of a genus of insects, called by authors cimices. See the article CIMEX.

The house bug, or cimex lectuarius, so extremely troublesome about beds, is of a roundish figure, and of a dark cinnamon colour.

In order to destroy these vermin, let the bed-steads be washed with oil of turpentine, or painted over with verdigrise ground in linseed and oil of turpentine. Or, boil wormwood, rue, common oil, and water together, till the water is consumed; then, after straining, make it into an ointment with a good quantity of grease or sulphur: with this rub the chinks and other places, where the bugs are supposed to be. Or, mix hemp, oil, and ox-gall together; with which rub the bed-stead all over, and the bugs will not come near it. Or, pound equal quantities of black soap and common soap together; then mixing as much of quicksilver with it, let the buggy places be rubbed with this mixture.

BUG is also a name sometimes given to the chermes insect. See CHERMES.

Green-house BUG, the coccus of the orange tree. See the article COCCUS.

BUGGASINS, in commerce, a name given to buckrams made of callico: these pay a duty on importation of 1 s. $2\frac{36}{100}$d. the half piece; whereof 1 s. $\frac{9}{100}$d. is drawn back on exportation.

BUGGERS, in church-history, the same with bulgarians, a sect of heretics which amongst other errors held, that men ought to believe no scripture but the New Testament; that baptism was not necessary to infants; that husbands who conversed with their wives, could not be saved; and that an oath was absolutely unlawful.

BUGGERY is defined by Sir Edward Coke to be a carnal copulation against nature, either by the confusion of species; that is to say, a man or woman with a brute beast; or sexes, as a man with a man, or man unnaturally with a woman. It is said, that this sin against God and nature, was first brought into England by the Lombards; and antiently, according to some writers, it was punishable with burning; but others say, with burying alive. It is, by statute, felony without benefit of clergy, and is always excepted out of a general pardon.

BUGIA, a port-town of the kingdom of Algiers, in Africa, situated about sixty miles east of the city of Algiers; east longitude 4°, north latitude 35° 30'.

BUGIE, a port-town of Egypt, situated on the western shore of the Red-sea, almost opposite

opposite to Ziden, the port-town to Mecca, and about 100 miles west of it; east long. 36°, north lat. 22°.

BUGLE, *ajuga*, in botany. See AJUGA.

BUGLOSS, *buglossum*, in botany, a name given to several very distinct genera of plants, as the anchusa, lycopsis, and asperugo. See the articles ANCHUSA, *&c.*

Viper's BUGLOSS, the english name of the echium of botanists. See ECHIUM.

BUILDING, a fabric erected by art, either for devotion, for magnificence, or for conveniency.

Regular BUILDING is that whose plan is square, the opposite sides equal, and the parts disposed with symmetry.

Irregular BUILDING, that whose plan is not contained with equal or parallel lines, either by the accident of situation, or the design of the builder, and whose parts are not relative to one another in the elevation.

Insulated BUILDING, that which is not contiguous to any other, but is encompassed with streets, open squares, or the like.

Engaged BUILDING, one surrounded with other buildings, having no front to any street or public place, nor any communication without, but by a common passage.

Interred or sunk BUILDING, one whose area is below the surface of the place on which it stands, and of which the lowest courses of stone are concealed.

With respect to their use, buildings take several denominations, as public buildings, private buildings, hydraulic buildings, *&c.* See BASILIC, CHURCH, PALACE, HOUSE, FOUNTAIN, *&c.*

BUILDING is also used for the art of constructing and raising an edifice; in which sense it comprehends as well the expences, as the invention and execution of the design. There are three things chiefly to be considered in the art of building, *viz.* conveniency, firmness, and delight. To accomplish which ends, Sir H. Wotton considers the subject under these two heads, the situation and the work. As to the situation, either that of the whole is to be considered, or that of its parts. In the first, regard must be had to the quality, temperature, and salubrity of the air; to the quality of the soil; to the conveniency of water, fuel, carriage, *&c.* and to the agreeableness of the prospect. To which may be added, a political precept or caution, by no means to build too near a great neighbour; for in that case, says the above-mentioned celebrated architect, you would be as unfortunately seated on earth as Mercury is in the heavens, for the most part ever in combustion, or obscurity, under brighter beams than his own. As to the situation of the parts, the chief rooms, studies, and libraries, should lie towards the east; those offices which require heat, as kitchens, brewhouses, bake-houses, and distillatories, towards the south; those which require a cool fresh air, as cellars, pantries, granaries, to the north; as also galleries for paintings, musæums, *&c.* which require a steady light. The antient Greeks and Romans generally situated the fronts of their houses towards the south; but the modern Italians vary very much from this rule. And indeed, as to this matter, regard must still be had to the country, each being obliged to provide against its own inconveniencies.

The situation being fixed on, the next thing to be considered is the work itself, under which come first the principal parts, and next, the accessories or ornaments. To the principals belong the materials, and the form or disposition.

As for the materials, they are either stone, as marble, free-stone, brick for the walls, mortar, *&c.* or of wood, as fir, cypress, cedar for pillars of upright uses, oak for summers, beams and crop-work, or for joining and connection. See the articles BRICK, MORTAR, SUMMER, BEAM, *&c.*

As to the form and disposition of a building, it is either simple or mixed.

The simple forms are either circular, or angular.

The circular form is very commodious, and the most capacious of any, strong, durable, and very beautiful; but is the most chargeable of all others, and much room is lost by the bending of the walls, when it comes to be divided into apartments; besides an ill distribution of the light, unless it be from the center of the roof. For these reasons, the antients employed this form only in their temples and amphitheatres, which had no need of compartitions.

As for angular forms, building neither loves many nor few angles. The triangle is condemned above all others, as wanting both capaciousness and firmness, as also on account of its not being resolvable in the internal partitions, into any other figure than its own. Buildings with five, six, or more angles, are more fit for fortifications than civil edifices.

 The

The rectangle, therefore, is generally chosen, as being a medium between the triangle and a pentagon, *&c.* But then authors are in dispute, whether the rectangle should be an exact square, or an oblong; and Sir H. Wotton prefers the oblong, provided the length exceeds not the breadth by more than one third. As to mixed forms, partly circular, and partly angular, a judgment may be made of them, from what has been already said of simple ones. Let the builder, however, remember not to lose sight of uniformity, while he is in pursuit of variety; for these two may be very well reconciled, as may be observed in our bodies, which are uniform in the whole configuration; and yet some of the members are round, others flat; some prominent, and others indented, or retired.

Some observe, that in building houses long, the use of some rooms will be lost; as they will take up more for entries and passages, and will require too much for doors; and if the building be a geometrical square, the middle rooms will want light, in case the house be pretty large; and therefore they recommend the form of the letter H, a form, say they, in which the building stands firmer against the weather, and in which the offices may be remote from the parlour, and rooms of entertainment, and yet in the same house.

This figure may serve very well for a country gentleman's house.

The principal parts of a building, are comprized by Baptista Alberti, under five heads, *viz.* the foundation, the walls, the apertures, the compartitions, and the covering; the properties and uses of which, may be seen under the articles FOUNDATION, WALL, ROOF, *&c.*

The accessories or ornaments of a building, are fetched from sculpture and painting. In the first, care ought to be taken that there be not too much of it, especially at the entrance; and that both in fine and coarse pieces of sculpture, and likewise in placing figures aloft, the rules of perspective be strictly observed.

In painting, the chief things to be regarded are, that the best pieces be placed in the best lights, and that they be suited to . intention of the rooms they are used in.

If we compare the modern with the old way of building in England, we cannot but wonder at the genius of those times. Our fore-fathers were wont to dwell in houses most of them with a blind staircase, low ceilings, and dark windows; the rooms built at random, without any contrivance, and often with steps from one to another; whereas the genius of our times requires light stair-cases, fine sash-windows, and lofty ceilings, with conveniencies far superior to those that houses in antient days afforded upon an equal quantity of ground.

The greatest objection against our houses, especially in the city of London, is that they are too slight, on account of the fines exacted by the landlords; but then this manner of building is very much to the advantage of such trades as have relation to builders; for they scarce ever want work in a city where they are always either repairing or rebuilding.

The following general rules to be observed in building, were established by act of parliament, before the rebuilding of the city of London after the fire. 1. In every foundation within the ground, there must be added one brick in thickness, to the thickness of the wall next the foundation to be set off, in three courses equally on both sides. 2. No timber must be laid within twelve inches of the foreside of the chimney jaumbs. 3. That all joists on the back of any chimney, be laid with a trimmer at six inches distance from the back. 4. That no timber be laid within the funnel of any chimney, upon penalty of ten shillings to the workman, and ten shillings every week it continues unreformed. 5. That no joists or rafters be laid at greater distances from one to the other, than twelve inches; and no quarters at a greater distance, than fourteen inches. 6. That no joists bear at longer length than nine feet. 7. That all roofs, window-frames, and cellar-floors, be made of oak. 8. That the tile-pins be made of oak. 9. That no summers or girders in brick buildings, do lie over the heads of doors or windows. 10. That no summers or girders do lie less than ten inches into the brick-work; nor no joists less than eight inches, and that they be laid in loam.

Dr. Fuller gives us some good aphorisms in building, as, 1. Let not the common rooms be several, nor the several rooms common; that is, the common rooms are not to be private or retired, as the hall, galleries, *&c.* which are to be open; and the chambers, closets, *&c.* to be retired. 2. As to capaciousness, a house had better be too little for a day, than too big for

for a year, and therefore to be proportioned to ordinary not extraordinary occasions. 3. As for ſtrength, country houſes muſt be ſubſtantives, able to ſtand of themſelves; not like city buildings, ſupported and flanked by thoſe of their neighbour on each ſide. 4. As for beauty, let not the front look aſquint a ſtranger, but accoſt him right at his entrance. 5. Let the offices keep their due diſtance from the manſion-houſe; thoſe are too familiar which preſume to be of the ſame pile with it.

Section of a BUILDING. See SECTION.

BUL, in the antient hebrew chronology, the eighth month of the eccleſiaſtical, and the ſecond of the civil year; it has ſince been called Marſhevan, and anſwers to our October.

BULAC, a town of Egypt, ſituated on the eaſtern ſhore of the river Nile, about two miles weſt of Grand Cairo, of which it is the port-town, and contains about four thouſand families; eaſt long. 32°, and north latitude 30°.

It is a place of great trade, as all the veſſels, going up and down the Nile, make ſome ſtay here: it is alſo in this place that they cut the banks of the Nile every year, in order to fill their canals, and overflow the neighbouring grounds, without which the ſoil would produce neither grain nor herbage.

BULAFO, a muſical inſtrument conſiſting of ſeveral pipes of wood, tied together with thongs of leather ſo as to form a ſmall interſtice between each pipe. It is uſed by the negroes of Guinea.

BULB, or BULBOUS ROOT, in the anatomy of plants, expreſſes a root of a round or roundiſh figure, and uſually furniſhed with fibres at its baſe.

Bulbous roots are ſaid to be ſolid, when compoſed of one uniform lump of matter; tunicated, when formed of multitudes of coats, ſurrounding one another; ſquamoſe, when compoſed of, or covered with leſſer flakes; duplicate, when there are only two to each plant; and aggregate, when there is a congeries of ſuch roots to each plant.

BULBOCODIUM, in botany, a genus of the hexandria-monogynia claſs of plants, the flower of which conſiſts of ſix petals of a funnel-form; the fruit is a triangular acuminated capſule, with three cells, containing numerous ſeeds. The root of this plant, according to Lemery, is purgative and aperitive; but Ray ſays it is emetic, and hurtful to the nerves. Mr. Herman ſays, the bruiſed leaves are good for an eryſipelas.

BULBOSE, or BULBOUS. See the article BULB.

BULGAR, the capital of the province of Bulgar, in Ruſſia, ſituated on the river Wolga; eaſt longitude 51°, and north lat. 54°.

BULGARIA, a province of Turky in Europe, bounded by the river Danube, which divides it from Wallachia and Moldavia on the north; by the Black ſea, on the eaſt; by Romania, on the ſouth; and by Servia, on the weſt. Its chief city is Nicopolis.

BULIMY, a diſeaſe in which the patient is affected with an inſatiable and perpetual deſire of eating; and, unleſs he is indulged, he often falls into fainting fits. It is alſo called *fames canina*, canine appetite.

It muſt be obſerved, however, that ſome make a diſtinction between bulimy and fames canina, namely, that in the fames canina the patient is taken with vomiting, as dogs are after eating a too great quantity of food; though ſome are ſeized with a flux of the belly inſtead of vomiting, nature diſcharging that way the ſuperfluity of aliment, which the ſtomach was incapable of digeſting; but that the bulimy is attended with a lipothymy, and not with vomiting.

A bulimy ariſes from a too contractile force of the muſcular coat of the ſtomach, or from very ſharp humours contained in it. In ſome, the right mouth of the ſtomach has been found too large, after death, and conſequently the aliment was expelled too ſoon.

As to the therapeutic part, in order to ſubdue the contractile force of the ſtomach, it is neceſſary to uſe oils and fat things, as fat meat, pork, hot bread and butter, likewiſe milk and lacticinia, eſpecially compoſitions of meal and milk, rice, millet, barley, buck-wheat, beans, peas, lentils, almonds, and the like; as alſo chocolate made with milk and ſweetened with ſugar. If theſe are inſufficient, opiates muſt be added, particularly a dram of theriaca in the evening.

If the bulimy proceeds from ſharp humours irritating the ſtomach, the moſt rational method of cure is to evacuate ſuch humour, or correct its acrimony, and then to reſtore the ſtomach, and the organs employed in digeſtion, to their natural tone and ſtate, that no more may be generated. Abſorbents may be added to the

the former things; and if an acid is in fault, thirty or forty drops of oil of tartarper deliquium, will be proper, and alkalies in general, especially filings of steel, taken in large doses. Brandy taken in the morning, and frequent smoaking tobacco, have likewise proved beneficial to some.

BULITHUS, βȣλιθ☉, a stone found either in the gall-bladder, or in the kidneys and bladder of an ox: hence appears the error of Aristotle, who pretended that man alone was afflicted with the stone.

BULK *of a ship*, the whole content in the hold for the stowage of goods.

BULK-HEADS are partitions made athwart the ship, with boards, by which one part is divided from the other; as the great cabbin, gun-room, bread-room, and several other divisions. The bulk-head afore is the partition between the fore-castle and gratings in the head.

Breaking BULK. See BREAKING.

BULL, *taurus*, in zoology, the male of the ox-kind, which being castrated is called an ox. See the article BOS.

A bull, kept for breeding, ought to be gentle, of a middle age, of a black or red colour, and of a sharp quick countenance; his fore-head should be broad and curled, his hair smooth like velvet, his eyes black and large, his horns long, his neck fleshy, his breasts big, his back strait and flat, his buttocks square, his belly long and large, his legs strait, and his joints short. Such a bull is said to produce sound and strong cattle, and especially oxen fit for draught. One bull will serve fifty, some say sixty cows; but then he must be young, or only two or three years old.

BULL, *taurus*, in astronomy. See the article TAURUS.

BULL-BAITING. See BAITING.

BULL'S-EYE, in astronomy. See the article ALDEBARAN.

BULL'S-EYE, among seamen, a small, obscure, sublime cloud, ruddy in the middle, that sometimes appears to mariners, and is the immediate forerunner of a great storm at sea.

BULL-FINCH, in ornithology, the english name of the *loxia* with a black head and a red breast. It is about the size of the common sparrow, and its wings are elegantly variegated with black and red. See plate XXXIII. fig. 3. and the article LOXIA.

BULL-FROG, in zoology, the largest kind of frog. See the article FROG.

BULL, among ecclesiastics, a written letter, dispatched, by order of the pope, from the roman chancery, and sealed with lead, being written on parchment, by which it is partly distinguished from a brief. See the article BRIEF.

It is a kind of apostolical rescript, or edict, and is chiefly in use in matters of justice or grace. If the former be the intention of the bull, the lead is hung by a hempen cord; if the latter, by a silken thread. It is this pendent lead, or seal, which is, properly speaking, the bull, and which is impressed, on one side, with the heads of St. Peter and St. Paul, and on the other with the name of the pope, and the year of his pontificate. The bull is written in an old, round, gothic letter, and is divided into five parts, the narrative of the fact, the conception, the clause, the date, and the salutation, in which the pope stiles himself *servus servorum*, *i. e.* the servant of servants.

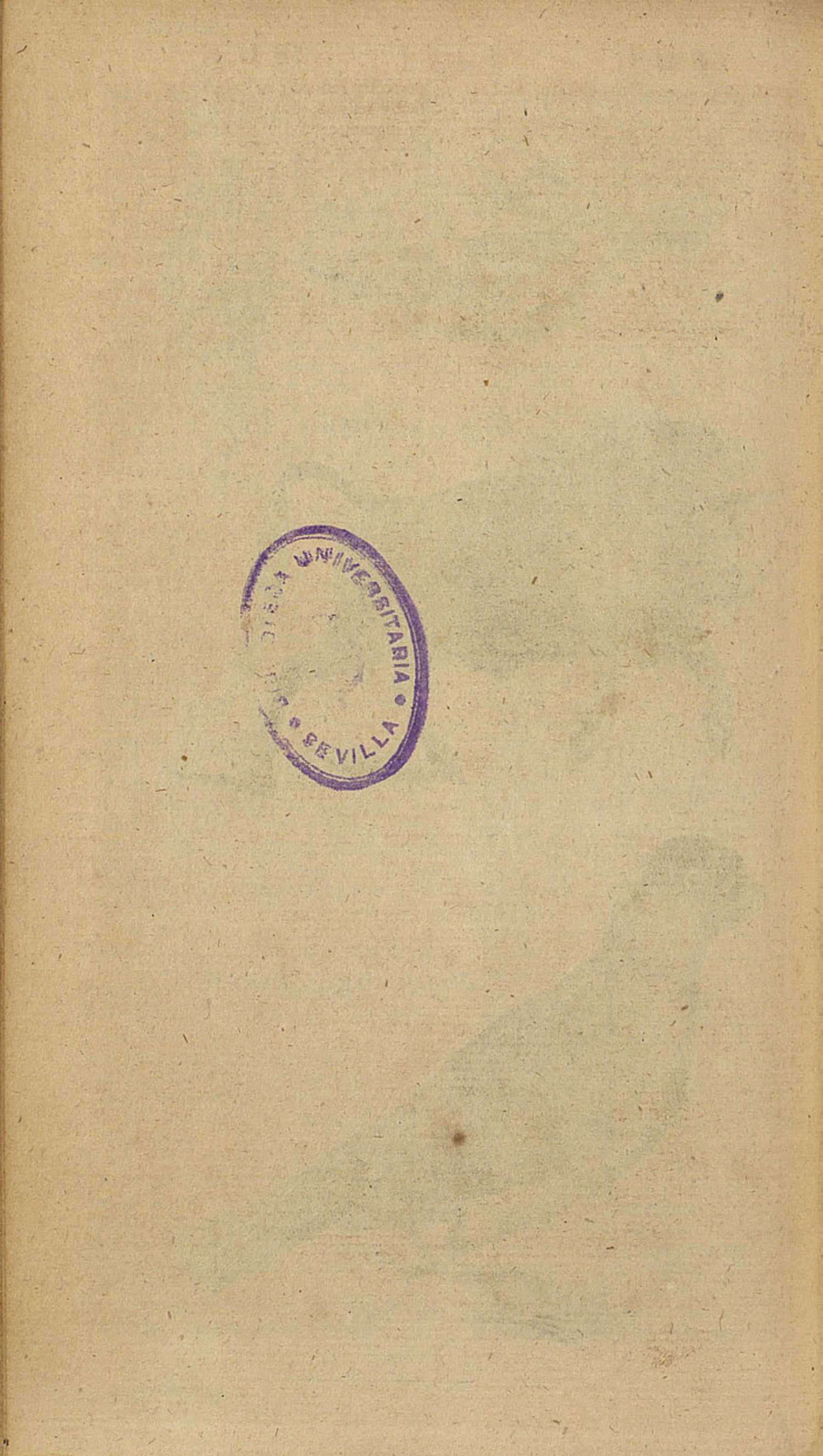
These instruments, besides the lead hanging to them, have a cross, with some text of scripture, or religious motto, about it. Bulls are granted for the consecration of bishops, the promotion to benefices, and the celebration of jubilees, &c.

Bull in cæna Domini, a particular bull read every year, on the day of the Lord's supper, or Maundy Thursday, in the pope's presence, containing excommunications and anathemas against heretics, and all who disturb or oppose the jurisdiction of the holy see. After the reading of the bull, the pope throws a burning torch in to the public place, to denote the thunder of this anathema.

Golden BULL, an edict, or imperial constitution, made by the emperor Charles IV. reputed to be the magna charta, or the fundamental law of the german empire. It is called golden, because it has a golden seal, in the form of a pope's bull, tied with yellow and red cords of silk: upon one side is the emperor represented sitting on his throne, and on the other the capitol of Rome. It is also called Caroline, on Charles IV's account. Till the publication of the golden bull, the form and ceremony of the election of an emperor were dubious and undetermined, and the number of the electors not fixed. This solemn edict regulated the functions, rights, privileges, and pre-eminences of the electors. The original, which is in latin, on vellum, is preserved at Frankfort: this ordinance, containing thirty articles, or chapters, was approved of by



T. Jefferys sculp.


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by all the princes of the empire, and remains ſtill in force.

BULLÆ, in roman antiquity, ornaments at firſt given only to the ſons of noblemen; though afterwards they became of more common uſe. This ornament was firſt given by Tarquinius with the prætexta to his ſon, who had, with his own hand, at fourteen years of age, killed an enemy. Thus we find the bulla was a ſign of triumph. Macrobius relates, that the children of freed men were allowed to wear the prætexta, and, inſtead of the golden bulla, a leathern one, about their necks: thoſe bullæ were made hollow within to incloſe amulets againſt envy, *&c.* When the youth arrived at fifteen years of age, they hung up their bullæ about the necks of their gods Lares. We are farther imformed, that the bullæ were not only hung about the necks of young men, but of horſes alſo.

BULLET, an iron or leaden ball, or ſhot, wherewith fire arms are loaded. See the article BALL.

Bullets are of various kinds, *viz.* red-hot bullets, made hot in a forge, intended to ſet fire to places where combuſtible matters are found. Hollow bullets, or ſhells made cylindrical, with an aperture and fuſee at one end, which giving fire to the inſide, when in the ground, it burſts, and has the ſame effect with a mine. Chain-bullets, which conſiſt of two balls, joined by a chain, three or four feet apart.

Branch-bullets, two balls joined by a bar of iron, five or ſix inches apart.

Two-headed bullets, called alſo angles, two halves of a bullet, joined by a bar or chain.

Cannon bullets are of different diameters and weight, according to the nature of the piece: an engliſh muſquet carries a bullet of ſixteen in a pound; a carbine, of twenty-four; and a piſtol of thirty-two in a pound; by which are to be underſtood ammunition carbines and piſtols. According to Marſenne, a bullet, ſhot out of a great gun, flies 92 fathoms in a ſecond of time, being equal to 589 $\frac{1}{2}$ engliſh feet: but, according to ſome very accurate experiments of Mr. Derham, it only flies, at its firſt diſcharge, 510 yards in five half ſeconds.

BULLION, uncoined gold or ſilver in the maſs.

Thoſe metals are called ſo, either when ſmelted from the native ore, and not perfectly refined; or when they are perfectly refined, but melted down in bars or ingots, or in any unwrought body, of any degree of fineneſs.

When gold and ſilver are in their purity, they are ſo ſoft and flexible, that they cannot well be brought into any faſhion for uſe, without being firſt reduced and hardened with an alloy of ſome other baſer metal.

To prevent theſe abuſes, which ſome might be tempted to commit in the making of ſuch alloys, the legiſlators of civilized countries have ordained, that there ſhall be no more than a certain proportion of a baſer metal to a particular quantity of pure gold or ſilver, in order to make them of the fineneſs of what is called the ſtandard gold or ſilver of ſuch a country.

According to the laws of England, all ſorts of wrought plate in general, ought to be made to the legal ſtandard; and the price of our ſtandard gold and ſilver is the common rule whereby to ſet a value on their bullion, whether the ſame be in ingots, bars, duſt, or in foreign ſpecie: whence it is eaſy to conceive that the value of bullion cannot be exactly known, without being firſt aſſayed, that the exact quantity of pure metal therein contained may be determined, and conſequently whether it be above or below the ſtandard.

Silver and gold, whether coined or uncoined (though uſed for a common meaſure of other things) are no leſs a commodity, than wine, tobacco, or cloth; and may, in many caſes, be exported as much to the national advantage as any other commodity.

BULLOCK, the ſame with an ox, or gelded bull. See the article BULL.

BULWARK, in the antient fortification, the ſame with rampart. See RAMPART.

BUMICILLI, a religious ſect of mahometans in Egypt and Barbary, who pretend to fight with devils, and commonly appear in a fright and covered with wounds and bruiſes. About the full moon they counterfeit a combat in the preſence of all the people, which laſts for two or three hours, and is performed with aſſagaias, or javelins, till they fall down quite ſpent; in a little time however, they recover their ſpirits, get up, and walk away.

BUNCH, in a general ſenſe, denotes a cluſter of certain things, as of grapes.

Bunch is alſo uſed for a tumour or excreſcence: ſuch is that which grows on the backs of camels.

BUNCHED cods, or pods, thoſe that ſtand out in knobs, wherein the ſeeds are lodged.

Bunched roots, all ſuch as have knobs or knots on them.

BUNG, denotes the plug, or ſtopple, fited to the opening of a caſk, called the bung-hole.

After tunning any fermented liquor, it is proper to leave the bung-hole open for ſometime, otherwiſe the veſſel would be in danger of burſting.

BUNGAY, a market-town of Suffolk, ſituated on the river Wavenny, about thirty-two miles north-eaſt of Bury: eaſt lon. 1° 35′, and north latitude 52° 35′.

BUNIAS, corn rocket, in botany, a genus of the tetradynamia-ſiliquoſa claſs of plants, the flower of which conſiſts of four petals in form of a croſs; the fruit is an irregular pod with four ſides, and terminated in ſharp points, containing a roundiſh ſeed under each point. Theſe ſeeds are ſaid to be heating, drying, abſterging, aperitive, and digeſtive, and to be enemies to venery.

BUNIUM, the earth-nut, in botany, a genus of plants belonging to the pentandria-digynia claſs, the general flower of which is uniform, and the ſingle flower conſiſts of five inflexo-cordated equal petals: there is no pericarpium: the fruit is oval, and diviſible into two parts; the ſeeds are two, and oval, convex on one ſide, and plane on the other.

BUNT *of a ſail*, the middle part of it, formed deſignedly into a bag or cavity, that the ſail may gather more wind. It is uſed moſtly in top-ſails, becauſe courſes are generally cut ſquare, or with but ſmall allowance for bunt or compaſs. The bunt holds much leeward wind, that is, it hangs much to leeward.

Bunt lines are ſmall lines made faſt to the bottom of the ſails, in the middle part of the bolt rope, to a cringle, and ſo are reeved through a ſmall block, ſeized to the yard. Their uſe is to trice up the bunt of the ſail, for the better furling it up.

BUNTING, in ornithology, the engliſh name of the *emberiza*, a ſpecies of the *fringilla*. Its head ſomewhat reſembles that of a rail; the chin, breaſt, and belly are of a yellowiſh white; the throat hath oblong black ſpots: the tail is more than three inches long, and of a duſky red colour: it ſings ſitting upon the higheſt twigs of trees and ſhrubs. See plate XXXIV. fig. 1. and the article Emberiza.

BUNTINGFORD, a market-town of Hertfordſhire, about twelve miles north of Hertford; weſt long. 5′, and north lat. 51° 55′.

BUNTZLAU, or Buntzel, the name of two towns in Germany: the old town is ſituated on the river Elbe, and new town, which is become the moſt conſiderable, upon the Gizare, eight leagues from Lignitz, in 16° 26′ eaſt longitude, and 51° 12′ north latitude. There is likewiſe a town of that name in Sileſia.

BUONO, as tempo buono, in muſic, ſignifies a certain time or part of the meaſure, more proper for certain things than any other, as to end a cadence or pauſe, to place a long ſyllable or ſyncoped diſſonance, concord, &c. In common time of four times to a bar, the firſt and third is one buono tempo, as the ſecond and laſt are called tempo di cattiva.

BUOY, at ſea, a ſhort piece of wood, or a cloſe-hooped barrel, faſtened ſo as to float directly over the anchor, that the men, who go in the boat to weigh the anchor, may know where it lies.

Buoy is alſo a piece of wood, or cork, ſometimes an empty caſk, well cloſed, ſwimming on the ſurface of the water, and faſtened, by a chain or cord, to a large ſtone, piece of broken cannon, or the like, ſerving to mark the dangerous places near a coaſt, as rocks, ſhoals, wrecks of veſſels, anchors, &c.

There are ſometimes, inſtead of buoys, pieces of wood placed in form of maſts, in conſpicuous places; and ſometimes large trees are planted in a particular manner, in number two at leaſt, to be taken in a right line, the one hiding the other, ſo as the two may appear to the eye no more than one.

Stream the Buoy is to let the anchor fall while the ſhip has way.

To buoy *up the cable* is to faſten ſome pieces of wood, barrels, &c. to the cable, near the anchor, that the cable may not touch the ground, in caſe it be foul or rocky, leſt it ſhould be fretted and cut off.

BUOYANT, ſomething which, by its aptneſs to float, bears up other more ponderous and weighty things. See Buoy.

BUPHTHALMUM, ox-eye, in botany, a genus of the ſyngeneſia polygamia-ſuperflua claſs of plants of Linnæus, comprehending the *aſteriſcus* and *aſteroides* of Tourne-

Tournefort: the compound flower is large, radiated, and reddiſh on the backſide, but white within: the ſeeds are ſolitary, with the ſides thereof emarginated, and contained in the cup: the proper hermaphrodite flower is infundibuliform, patulous, and divided into five ſegments at the limb. See plate XXXIV. fig. 2.

BUPLEURUM, HARE'S-EAR, in botany, a genus of the pentandria-digynia claſs of plants, the general flower of which is uniform; the proper one conſiſts of five ſmall cordated petals, bent inwardly: the fruit is round, compreſſed, ſtriated, diviſible into two cells, containing ovato-oblong ſtriated ſeeds, convex on the one ſide, and plane on the other.

BUQUOI, a town of Artois, in the french Netherlands, ſituated on the confines of Picardy; eaſt longitude 2° 40′, and north latitude 50° 12′.

BURDEN, or BURDON, in muſic, the drone or baſs, and the pipe or ſtring which plays it: hence that part of a ſong, that is repeated at the end of every ſtanza, is called the burden of it.

A cord which is to be divided, to perform the intervals of muſic, when open and undivided, is alſo called the burden.

BURDEN *of a ſhip* is its contents, or number of tons it will carry. The burden of a ſhip may be determined thus: multiply the length of the keel, taken within board, by the breadth of the ſhip, within board, taken from the midſhip-beam, from plank to plank, and multiply the product by the depth of the hold, taken from the plank below the keelſon, to the under part of the upper-deck plank, and divide the laſt product by 94, then the quotient is the content of the tonnage required. See the article FREIGHT.

BURDOCK, in botany, the engliſh name of two diſtinct genera of plants, the arctium and xanthium. See the articles ARCTIUM and XANTHIUM.

BUREN, a town of dutch Guelderland, about ſixteen miles weſt of Nimeguen: eaſt lon. 5° 20′, and north lat. 52°.

BUREN is alſo the name of a town of Weſtphalia, in Germany, about five miles ſouth of the city of Paderborn; eaſt lon. 8° 25′, and north latitude 51° 35′.

BURFORD, a market-town of Oxfordſhire, about fifteen miles weſt of Oxford; weſt lon. 1° 40′, and north lat. 51° 40′. It gives the title of earl to the noble family of Beauclerc.

BURG, a town of Zutphen, in the dutch Netherlands, ſituated upon the old Iſſel, about eighteen miles eaſt of Nimeguen; eaſt lon. 6° 10′, and north lat. 52°.

BURGAGE, an antient tenure in boroughs, whereby the inhabitants, by cuſtom, hold their lands, &c. of the king, or other ſuperior lord of the borough, at a certain yearly rent: alſo a dwelling houſe in a borough, was antiently called a burgage.

BURGESS, an inhabitant of a borough, or one who poſſeſſes a tenement therein.

In other countries, burgeſs and citizen are confounded together; but with us they are diſtinguiſhed: the word is alſo applied to the magiſtrates of ſome towns.

Burgeſs is now ordinarily uſed for the repreſentative of a borough-town in parliament.

BURGGRAVE properly denotes the hereditary governor of a caſtle or fortified town, chiefly in Germany.

BURGH, a term denoting the ſame with borough. See the article BOROUGH.

BURGH-BOTE ſignifies a contribution towards the building or repairing of caſtles, or walls, for the defence of a borough, or city.

BURGH-BRECHE is properly the breaking open a burgh, houſe, encloſure, &c. and in the laws of Canute, cap. lv. ſignifies a fine, impoſed upon a community of a town, for a breach of the peace. According to Raſtallus, burgh-breche is, to be quit of treſpaſſes committed againſt the peace, in city or borough.

BURGHERMESTERS, the ſame with burgomaſters. See BURGOMASTER.

BURGHMOTE, the court of a borough.

BURGLARY, a felonious breaking and entering into the dwelling-houſe of another perſon, in the night-time, with an intent to commit ſome felony, whether the ſame be executed, or not.

The like offence committed by day, is called houſe-breaking.

Burglary is an offence excluded the benefit of clergy, and may be committed by taking away goods from a dwelling-houſe, any perſon being therein; or breaking any ſhop, ware-houſe, &c. tho' in the day-time, and taking goods from thence of five ſhillings value, if no perſon be therein.

BURGLES, a town of Tranſilvania, about thirty miles north of Clauſenburg, ſubject to the houſe of Auſtria; eaſt long. 22° 40′, and north latitude 47° 40′.

BURGOMASTER, the chief magiſtrate of the great towns in Flanders, Holland, and Germany. The power and juriſdiction

diction of the burgomaster is not the same in all places, every town having its particular customs and regulations: at Amsterdam there are four chosen by the voices of all those people in the senate, who have either been burgomasters or echevins. Their authority resembles that of our lord-mayor and aldermen; they dispose of all under offices, that fall in their time, keep the key of the bank, and enjoy a salary but of five hundred guilders, all feasts, public entertainments, &c. being defrayed out of the common treasury.

BURGOO, a dish frequent at sea, being made of oat-meal, or greets, boiled in water till they burst, and then some butter added.

BURGOS, the capital of old Castile, in Spain, about one hundred and ten miles north of Madrid; west longitude 4° 5′, and north lat. 42° 30′.

BURGOW, a town of Swabia, in Germany, about twenty miles west of Augsburg; east long. 10° 20′, and north lat. 48° 30′.

BURGRAVE, or BURGGRAVE. See the article BURGGRAVE.

BURGUNDY, or BURGOIGNE, a province, or government, in France, having Champaign on the north, and Dauphine on the south.

BURIAL, the interment of a deceased person.

The rites of burial make the greatest and most necessary care, being looked upon in all countries, and at all times, as a debt so sacred, that such as neglected to discharge it were thought accursed: hence the Romans called them *justa*, and the Greeks νομιμα, δικαια, ὁσια, &c. words implying the inviolable obligations which nature has laid upon the living, to take care of the obsequies of the dead. Nor are we to wonder that the antient Greeks and Romans were extremely solicitous about the interment of their deceased friends, since they were strongly persuaded, that their souls could not be admitted into the elysian fields till their bodies were committed to the earth; and if it happened that they never obtained the rites of burial, they were excluded from the happy mansions, for the term of an hundred years. For this reason it was considered as a duty incumbent upon all travellers who should meet with a dead body in their way, to cast dust or mould upon it three times, and of these three handfuls, one at least was cast upon the head. The antients likewise considered it as a great misfortune if they were not laid in the sepulchres of their fathers; for which reason, such as died in foreign countries had usually their ashes brought home, and interred with those of their ancestors. But notwithstanding their great care in the burial of the dead, there were some persons whom they thought unworthy of that last office, and to whom therefore they refused it: such were 1. Public or private enemies. 2. Such as betrayed, or conspired against their country. 3. Tyrants, who were always looked upon as enemies to their country. 4. Villains guilty of sacrilege. 5. Such as died in debt, whose bodies belonged to their creditors. And, 6. Some particular offenders, who suffered capital punishment.

Of those who were allowed the rites of burial, some were distinguished by particular circumstances of disgrace attending their interment: thus persons killed by lightening were buried apart by themselves, being thought odious to the gods; those who wasted their patrimony, forfeited the right of being buried in the sepulchres of their fathers; and those who were guilty of self-murder were privately deposited in the ground, without the accustomed solemnities. Among the Jews, the privilege of burial was denied only to self-murderers, who were thrown out to rot upon the ground. In the christian church, though good men always desired the privilege of interment, yet they were not, like the heathens, so concerned for their bodies, as to think it any detriment to them, if either the barbarity of an enemy, or some other accident, deprived them of this privilege. The primitive christian church denied the more solemn rites of burial only to unbaptised persons, self-murderers, and excommunicated persons who continued obstinate and impenitent, in a manifest contempt of the church's censures.

The place of burial among the Jews was never particularly determined. We find they had graves in the town and country, upon the highways, in gardens, and upon mountains. Among the Greeks, the temples were made repositories for the dead in the primitive ages, yet the general custom in later ages, with them, as well as with the Romans and other heathen nations, was to bury their dead without their cities, and chiefly by the highways. Among the primitive christians, burying in cities was not allowed for

for the firſt three hundred years, nor in churches for many ages after, the dead bodies being firſt depoſited in the atrium or church-yard, and porches and porticos of the church: hereditary burying-places were forbidden till the twelfth century. As to the time of burial, with all the ceremonies accompanying it, ſee the article FUNERAL RITES, FUNERAL GAMES, *&c.*

BURICK, a town of the dutchy of Cleves, in the circle of Weſtphalia, in Germany, ſituated on the river Rhine, about twenty miles ſouth of Cleves; eaſt long. 6° 5′, and north latitude 51° 35′.

BURLESQUE, a jocoſe kind of poetry, chiefly uſed in the way of drollery and ridicule, to deride perſons and things.

F. Vavaſſor maintains, in his book De ludicra dictione, that burleſque was altogether unknown to the antients: but others are of a different opinion. We even find that one Raintovius, in the time of Ptolemy Lagus, turned the ſerious ſubject of tragedy into ridicule; which is perhaps a better plea for the antiquity of farce, than of burleſque.

The Italians ſeem to have the juſteſt claim to the invention of burleſque: the firſt of this kind was Bernia; who was followed by Lalli, Caporali, *&c.* From Italy it paſſed into France, and became there ſo much the mode, that, in 1649, there appeared a book under the title of The Paſſion of our Saviour, in burleſque verſe. From thence it paſſed into England, where ſome have excelled therein.

BURLINGTON, a ſea-port town, in the eaſt riding of Yorkſhire, ſituated on the german ocean, about thirty-ſeven miles north-eaſt of York; eaſt long. 10′, and north latitude 54° 15′.

It gave the title of earl to a branch of the noble family of Boyle.

New BURLINGTON, the capital of New-Jerſey, in North America; ſituated in an iſland of Delawar river, about twenty miles north of Philadelphia; weſt long. 74°, and north lat. 40° 40′.

BURMANNIA, in botany, a genus of the hexandria-monogynia claſs of plants, the flower of which is very ſmall, conſiſting of three very ſmall, ovated, oblong petals, ſituated at the mouth of the cup: the fruit is an involuted capſule of a cylindraceo-trigonal figure, formed of three valves, with three cells, containing numerous very ſmall ſeeds.

BURN, in medicine and ſurgery, an injury received in any part of the body, either by fire itſelf, or by inſtruments put in a violent heat by the fire.

When any thing of this nature is applied to the body, the fibres and ſmall veſſels of the parts that are touched by it, will inſtantly corrugate and burſt, whilſt the blood and other contained fluids will be extravaſated, ſtagnate, and corrupt: but as the burns cauſed by ſolid bodies, are always attended with more grievous conſequences, than thoſe which are occaſioned with boiling liquors, ſo the miſchief is univerſally proportioned to the degree of vehemence in the burn: we may therefore divide burns into four degrees; the firſt and ſlighteſt is that which occaſions heat, pain, and a ſmall veſication of the injured part, in a ſhort time. The ſecond degree is, when the part is inſtantly affected with great pain and veſication. The third is when the common integuments and ſubjacent fleſh are ſo burnt, that they form a cruſt. The fourth is, where every thing is deſtroyed quite down to the bone. The third degree reſembles a gangrene, and the fourth a ſphacelus: whence it follows, that burns very much reſemble inflammations, and are known, in their reſpective degrees, by nearly the ſame ſigns.

As a burn is not unlike an inflammation, in regard to degrees, ſo the method of cure in both is much the ſame. When there happens a ſlight burn, or one of the firſt degree, the moſt proper medicines, on all accounts, are reſolvents, of which there are two kinds principally to be obſerved, the aſtringent and the emollient. Mild aſtringents are ſpirit of wine rectified, or camphorated: let the part affected be immerged in this ſpirit, and carefully fomented with linen cloths wet therein. Emollients are of linſeed, or ſweet almonds, of olives, of white lilies, of henbane, *&c.* with theſe the part affected ſhould be frequently anointed. The vulgar method of applying the burnt part to a candle, or the fire, and keeping it in that poſition as long as you can bear it, repeating this proceſs till all ſort of heat and pain is removed, is frequently attended with ſucceſs. The injured part may be fomented with water, as hot as the patient can bear it, till the pain and heat entirely diſappear.

When the burn is of the ſecond degree, which is attended with a bliſter, it ſeems improper to open the veſicle, or cut the ſkin already lacerated; but the beſt method, in this caſe, is, with all the haſte poſſible,

possible, to apply one or other of the medicines prescribed in the first degree, and renewing it very frequently: if the pain continues, lenitive remedies are to be used; here the most eligible medicines are the linseed oil, Mynsicht's ointment, unguentum nutritum, *&c.* with these the part must be often anointed; or they must be spread on linen, and bound to the part affected: as the pain and heat gradually decrease, some plaster, as that of red lead, may be applied, in order to smooth and restore the skin. If this second degree be more intense than ordinary, and affects a great part of the body, it will be necessary forthwith to take away some blood, in proportion to the violence of the burn, even till the patient faints, in order to prevent exulcerations, deformities by seams, and perhaps a gangrene: after which a strong cathartic should be used.

As to the third degree, in which a crust immediately covers the burnt part, it is very difficult, if not absolutely impossible, to cure it, without a suppuration. When this happens in the face, all diligence should be used to prevent deformity, which may be occasioned by a large cicatrix; therefore, in this case, the use of all plasters and ointments whatsoever is to be avoided: but you cannot be too solicitous in forwarding the casting off of the eschar, or crust, and the evacuation of the matter that is concealed under it; yet it should not be torn away with the knife, nor separated with the hands: the easiest and most successful method is, by the use of emollients, such as have been mentioned already, applied warm, and repeated till the hard crusts separate from the live flesh; the part should be dressed two or three times a day, and at each dressing, if you should observe any portion of the crust tending to a separation from the rest, it should be removed with the forceps, and the remaining crust anointed with butter, at the same time being never neglectful of the use of fomentations. The crust being taken off, the wound must be cleansed and healed, the first of which offices may be executed by any mild digestive ointment, mixed up with mel rosarum: the medicines used for healing, are principally unguentum diapompholygos, vel de lithargyrio, *&c.* but if any portion of the eschar is left under these ointments and plasters, a danger follows of making a deformed cicatrix, from the constriction of the neighbouring parts, and from the acrimony of the confined sanies. Evacuations by bleeding and purging are always to be premised, and proper regulations, with regard to diet, must be complied with: the best method of encouraging the renovation of the skin, is by frequently holding the burnt part over the steam that rises from boiling water. But as to the fourth degree, which is always attended with extreme danger, where the burning has penetrated to such a depth, as to corrupt and mortify all before it, almost to the very bone, all remedies are vain and useless, and there is no other way of assisting the patient, but by cutting off the affected limb, as is done in a sphacelus.

BURNET, in botany, the english name of the sanguisorba of botanical writers. See the article SANGUISORBA.

BURNET-SAXIFRAGE, or PIMPERNEL-SAXIFRAGE, Pimpinella. See the article PIMPINELLA.

BURNHAM, a market-town of Norfolk, about twenty-five miles north west of Norwich; east long. 50′, and north lat. 53°.

BURNING, the action of fire on some *pabulum*, or fuel, by which the minute parts thereof are torn from each other, put into a violent motion, and some of them assuming the nature of fire themselves, fly off *in orbem*, while the rest are dissipated in form of vapour, or reduced to ashes. See the articles FIRE, VAPOUR, *&c.*

BURNING, or BRENNING, in our old customs, denotes an infectious disease, got in the stews by conversing with lewd women, and supposed to be the same with what we now call the venereal disease.

In a manuscript of the vocation of John Bale, to the bishopric of Ossory, written by himself, he speaks of Dr. Hugh Weston, who was dean of Windsor, in 1556, but deprived by cardinal Pole for adultery, thus: "At this day is leacherous "Weston, who is more practised in the "arts of breech-burning, than all the "whores of the stews. He not long ago "brent a beggar of St. Botolph's pa-"rish." See the article STEWS.

BURNING, in antiquity, a way of disposing of the dead, much practised by the antient Greeks and Romans, and still retained by several nations in both the East and West-Indies.

Eustathius assigns two reasons why burning came to be of so general use in Greece; the first is, because bodies were thought to be unclean after the soul's departure, and

and therefore were purified with fire. The second reason is, that the soul being separated from the gross and unactive matter, might be at liberty to take its flight into heaven. The body was rarely burnt without company, for besides the various animals they threw upon the pile, we seldom find a man of quality consumed without a number of slaves and captives, which, in barbarous times, they used to murder for that purpose: and in some parts of the East-Indies it is customary, at this day, for wives to throw themselves into the funeral pile with their deceased husbands. At the funerals of emperors, generals, *&c.* who had their arms burnt with them, the soldiers made procession three times round the funeral pile with shouts and trumpets, to express their respect to the dead. During the burning also, the dead person's friends stood by, called on the deceased, and poured out libations of wine, with which, when the pile was burnt down, they extinguished the remains of the fire; and having collected the bones of the deceased, washed them with wine, and anointed them with oil. When the bones were discovered, they gathered the ashes that lay close to them, and both were reposited in urns, either of wood, stone, earth, silver, or gold, according to the quality of the deceased. See URN.

BURNING, among surgeons, denotes the same with cauterization. See the article CAUTERIZATION.

Burning is much practised by the people of the East-Indies, particularly those of Japan, who use the moxa for this purpose. See the article MOXA.

BURNING is also an appellation given to several diseases, on account of the great heat with which they are attended: thus we say, a burning fever, *&c.* See the articles FEVER and CAUSUS.

BURNING-ALIVE, in roman antiquity, a punishment inflicted upon such as deserted to the enemy, or divulged the secrets of the public, coiners of false money, incendiaries; and christians under Nero, were likewise burnt alive.

BURNING-GLASS, a convex or concave glass, commonly spherical, which being exposed directly to the sun, collects all the rays falling thereon into a very small space, called the focus; where wood, or any other combustible matter being put, will be set on fire.

The convex burning-glasses, transmit the rays of light, and in their passage, refract or incline them towards the axis; having the property of lenses, and acting according to the laws of refraction. The concave burning-glasses, very improperly so called, being usually made of metal, reflect the rays of light, and in that reflection incline them to a point in their axis; having the property of mirrours, and acting according to the laws of reflection. See LENS, REFRACTION, MIRROUR, REFLECTION.

In order to account for the nature of burning-glasses, whether mirrours or lenses, we must consider the area of their surfaces, and the focal distance, because both these quantities enter into the expression of their power of burning. Let AB and IK (plate XXXIV. fig. 3.) be two mirrours exposed directly to the rays of the sun CD, EF, and LM, NO; then will all the rays falling on the surface of these mirrours be reflected to the focus of the glasses, where they will be concentered, not in a point of space, but into a small round circular area GH and PQ. Now this circular spot, is the image of the sun inverted in both glasses; and the angle under which the image of an object appears from the center of the glass R and S, is equal to the angle under which the object appears. Therefore the angle GRH, is equal to the angle PSQ; and consequently the cones GRH and PSQ are similar, and the areas of their base, GH and PQ, will be as the squares of their heights, RH and SQ; that is, as the squares of their focal distances directly. Let $A =$ area or surface of the large glass; $a =$ that of the lesser; F and f the focal distances, and P and p the power of burning in each. Then since, while the focal distance remains, the power of burning (P) will be as the density of the rays in the solar spot GH; and this density of the rays will be as the number of rays reflected thither by the glass, which number of rays will be as the surface of the mirrour A; therefore, P will be as A directly in a mirrour of the same concavity, that is $P : p :: A : a$. Again, if the area of each glass be the same, the same quantity of rays will be collected and converged to the focus's GH and PQ; and consequently the density of those rays will be greater, the less the spot is in which they are contained; consequently, the power of burning (P) in this case, is inversely as the area of the solar spot, or the focal distance; that is,

 P will

P will be as $\frac{1}{F^2}$; or $P : p :: \frac{1}{f^2} : \frac{1}{F^2} :: f^2 : F^2$. Consequently, when neither the area of the glaſs nor focal diſtance are given, we have the power of burning compounded of the direct ratio of the area, and inverſe ratio of the ſquare of the focal diſtance of the glaſs; or we have $P : p :: Af^2 : AF^2$. See the article Focus.

We have ſome extraordinary inſtances and ſurprizing accounts of the prodigious effects of burning-glaſſes. Thoſe made of reflecting mirrours, are more powerful than thoſe made with lenſes (*cæteris paribus*) becauſe the rays from a mirrour, are reflected all to one point nearly; whereas by a lens, they are refracted to different points, and are therefore not ſo denſe or ardent. The whiter alſo the metal or ſubſtance is, of which the mirrour is made, the ſtronger will be the effect; and it is obſervable, that the great Mr. Boyle having made a very large mirrour of black marble, it would not ſo much as ſet wood on fire, though expoſed a long time in the focus.

The moſt remarkable burning-glaſſes, or rather mirrours, among the antients, were thoſe of Archimedes and Proclus; by the firſt of which the roman ſhips, beſieging Syracuſe, according to the teſtimony of ſeveral writers, and by the other, the navy of Vitalian beſieging Byzantium, were reduced to aſhes. Among the moderns, the burning mirrours of greateſt eminence, are thoſe of Settala, of Villette, and Tſchernhauſen, and the new complex one of Mr. de Buffon.

That of Mr. de Villette, was three feet eleven inches in diameter, and its focal diſtance was three feet two inches. Its ſubſtance is a compoſition of tin, copper, and tin-glaſs. Some of its effects, as found by Dr. Harris and Dr. Deſaguliers, are, that a ſilver ſixpence, melted in $7\frac{1}{2}''$; a king George's halfpenny melted in $16''$, and ran in $34''$; tin melted in $3''$, and a diamond weighing 4 grains, loſt $\frac{7}{8}$ of its weight.

That of Mr. de Buffon is a polyhedron, ſix feet broad, and as many high, conſiſting of 168 ſmall mirrours, or flat pieces of looking glaſs, each ſix inches ſquare; by means of which, with the faint rays of the ſun in the month of March, he ſet on fire boards of beech wood at 150 feet diſtance. Beſides, his machine has the conveniency of burning downwards, or horizontally, as one pleaſes; each ſpeculum being moveable, ſo as, by the means of three ſcrews, to be ſet to a proper inclination for directing the rays towards any given point; and it turns either in its greater focus, or in any nearer interval, which our common burning-glaſſes cannot do, their focus being fixed and determined.

Mr. de Buffon, at another time, burnt wood at the diſtance of 200 feet. He alſo melted tin and lead, at the diſtance of above 120 feet, and ſilver at 50.

Thoſe who are curious to have a deſcription of that of M. Tſchernhauſen, with an account of its powers, may conſult the hiſtory of the academy of ſciences, ann. 1699.

Burning-mountains, the ſame with volcanos. See the article Volcano.

Burning *of colours*, among painters. There are ſeveral colours that require burning, as firſt, lamp-black, which is a colour of ſo greaſy a nature, that except it is burnt, it will require a long time to dry.

The method of burning, or rather drying, lamp-black, is as follows: put it into a crucible over a clear fire, letting it remain till it be red hot, or ſo near it, that there is no manner of ſmoke ariſes from it.

Secondly, umber, which if it be intended for colour for an horſe, or to be a ſhadow for gold, then burning fits it for both theſe purpoſes.

In order to burn umber, you muſt put it into the naked fire, in large lumps, and not take it out till it is thoroughly red hot; if you have a mind to be more curious, put it into a crucible, and keep it over the fire till it be red hot.

Ivory alſo muſt be burnt to make black, thus: fill two crucibles with ſhavings of ivory, then clap their two mouths together, and bind them faſt with an iron wire, and lute the joints cloſe with clay, ſalt, and horſe-dung, well beaten together; then ſet it over the fire, covering it all over with coals: let it remain in the fire, till you are ſure that the matter incloſed is thoroughly red hot: then take it out of the fire; but do not open the crucibles till they are perfectly cold; for were they opened while hot, the matter would turn to aſhes; and ſo it will be, if the joints are not luted cloſe.

Burning *of land*, for corn. This art, uſually called denſhiring, or burnbeating, is

is not applicable or neceſſary to all ſorts of lands, but that which is barren, ſour, heathy, and ruſhy; be it either hot or cold, wet or dry: inſomuch, that moſt of them will yield, in two or three years after ſuch burning, more above charges, than the inheritance was worth before. The common method for it is with a breaſt-plough to pare off the turf, turning it over, as it is cut, that it may dry the better, which in a hot ſeaſon is not neceſſary. When the turfs are dry, they muſt be laid in ſmall heaps, about two wheel-barrow loads together: if the turf does not burn without any additional fuel, the heap ſhould be raiſed on a ſmall bundle of ling, goſs, fern, or the like, that it may ſet the whole on fire: when they are reduced to aſhes, they ſhould lie till they are ſodden with rain, before they are ſpread. Care muſt be taken that the turf be not over burnt; for if it be reduced to white aſhes, the nitrous ſalt will be waſted.

The ground under hills muſt be pared ſomewhat lower than the ſurface of the earth, to abate the too abundant fertility cauſed by the fire there: the land ſhould be ploughed ſhallow only, and not above half the uſual quantity of ſeed ſown, which alſo ſhould be late of the year; if wheat, towards the end of October, to prevent the exceſſive rankneſs of the corn.

BURNISHER, a round, poliſhed piece of ſteel, ſerving to ſmooth and give a luſtre to metals.

Of theſe there are different kinds of different figures, ſtrait, crooked, *&c.* Half burniſhers are uſed to ſolder ſilver, as well as to give a luſtre. See the articles POLISHER and SOLDERING.

BURNISHING, the art of ſmoothing or poliſhing a metalline body, by a briſk rubbing of it with a burniſher. See the article BURNISHER.

Book-binders burniſh the edges of their books, by rubbing them with a dog's tooth. Gold and ſilver are burniſhed, by rubbing them with a wolf's tooth, or by the bloody ſtone, or by tripoli, a piece of white wood, emery, and the like. Deer are ſaid to burniſh their heads, by rubbing off a downy white ſkin from their horns, againſt a tree.

BURNLEY, a market-town of Lancaſhire, about twenty-ſeven miles ſouth-eaſt of Lancaſter; weſt longitude 2° 5′, and north latitude 53° 40′.

BURNT, ſomething that has undergone the operation of burning: thus we ſay, burnt alum, burnt lead, burnt wine, *&c.* ſee the articles ALUM, *&c.*

Burnt bodies are not only dry and aſtringent, but loſe a great deal, if not all their other medicinal virtues.

BURR, the round knob of a horn next a deer's head.

BURRE, BOUREE, or BOREE, a kind of dance, compoſed of three ſteps joined together in two motions, begun with a crotchet riſing. The firſt couplet contains twice four meaſures, the ſecond twice eight. It conſiſts of a ballance and coupee.

BURREGREG, a conſiderable river of the kingdom of Fez, in Africa; which taking its riſe in the Atlas-mountains, falls into the ocean not far from the ſtraits of Gibraltar.

BURR-PUMP, or BILDGE-PUMP, differs from the common pump, in having a ſtaff 6, 7, or 8 feet long, with a bar of wood, whereto the leather is nailed, and this ſerves inſtead of a box. So two men, ſtanding over the pump, thruſt down this ſtaff, to the middle whereof is faſtened a rope, for 6, 8, or 10 to hale by, thus pulling it up and down.

BURROCK, a ſmall wier or dam, where wheels are laid in a river, for the taking of fiſh.

BURROW, or BOROUGH. See the article BOROUGH.

BURROWS, holes in a warren, which ſerve as a covert for hares, rabbits, *&c.*

BURSA, or PRUSA, in geography, the capital of Bythinia, in Aſia-Minor, ſituated in a fine fruitful plain, at the foot of mount Olympus, about an hundred miles ſouth of Conſtantinople; eaſt longitude 29°, north latitude 40° 30′.

BURSARS, in the ſcotch univerſities, are youths choſen as exhibitioners, and maintained for the ſpace of four years at the rate of 100l. *per annum* Scots.

BURSE, in a commercial ſenſe, a place for merchants to meet in, and negotiate their buſineſs publicly, with us called exchange. See the article EXCHANGE.

BURTON, in geography, the name of two market towns, the one in Staffordſhire, and the other in Lincolnſhire; the former being ſituated about eighteen miles eaſt of Stafford, in 1° 36′ weſt longitude, and 52° 40′ north latitude, and the latter, thirty miles north of Lincoln, in 30′ weſt longitude, and 53° 40′ north latitude.

BURTON is alſo the name of a market-town

in Weftmoreland, about thirty miles fouth-weft of Appleby; weft longitude 2° 35′, and north latitude 54° 10′.

BURTON, in the fea-language, a fmall tackle confifting of two fingle blocks, and may be made faft any where at pleafure, for hoifting fmall things in and out; and will purchafe more than a fingle tackle with two blocks.

BURY, in geography, a market-town of Lancafhire, about thirty miles fouth-eaft of Lancafter; weft longitude 2° 20′, north latitude 53° 36′.

BURY St. EDMUND'S, or St. EDMUND'S-BURY, the county town of Suffolk, about twelve miles eaft of Newmarket, and feventy north-eaft of London; eaft longitude 45′, and north latitude 52° 20′.

BURYING, the fame with burial. See the article BURIAL.

BUSH, a term ufed for feveral fhrubs of the fame kind, growing clofe together: thus we fay, a furze-bufh, bramble-bufh, *&c.*

It is fometimes ufed in a more general fenfe, for any affemblage of thick branches interwoven and mixed together.

Burning-BUSH, that bufh wherein the Lord appeared to Mofes at the foot of mount Horeb, as he was feeding his father-in-law's flocks.

As to the perfon that appeared in the bufh, the fcripture, in feveral places, calls him by the name of God: he fays of himfelf, "that he is the Lord, the God "who is the God of Abraham, Ifaac, "and Jacob, *&c.*" And Mofes, bleffing Jofeph, fays, "let the bleffing of him "that dwelt in the bufh, come upon the "head of Jofeph." But the hebrew and the greek feptuagint import, that the angel of the Lord appeared to him. St. Stephen, and feveral others, read it in the fame manner; and moreover fome fay, that it was an angel that reprefented the Lord: yet the antients hold the fon of God to be the perfon that appeared in the bufh.

The mahometans believe, that one of Mofes's fhoes, put off by him as he drew near the burning-bufh, was placed in the ark of the covenant, in order to preferve the memory of this miracle.

BUSHEL, a meafure of capacity for dry things, as grain, fruits, dry pulfe, *&c.* containing four pecks, or eight gallons, or one-eighth of a quarter.

A bufhel, by 12 Henry VII. c. 5. is to contain eight gallons of wheat; the gallon eight pounds of troy-weight; the ounce twenty fterlings, and the fterling thirty-two grains, or corns of wheat growing in the midft of the ear. See the articles MEASURE and WEIGHT.

At Paris the bufhel is divided into two half bufhels; the half bufhel into two quarts; the quart into two half quarts; the half quart into two litrons; and the litron into two half litrons. By a fentence of the provoft of the merchants of Paris, the bufhel is to be eight inches two lines and a half high, and ten inches in diameter; the quart, four inches nine lines high, and fix inches nine lines wide; the half quart, four inches three lines high, and five inches diameter; the litron, three inches and a half high, and three inches ten lines in diameter. Three Bufhels make a minot; fix, a mine; twelve, a feptier; and an hundred and forty-four, a muid. In other parts of France, the bufhel varies.

Oats are meafured in a double proportion to other grains, fo that twenty four bufhels of oats make a feptier, and 288 a muid. The bufhel of oats is divided into four picotins, the picotin into two half quarts, or four litrons. For falt, four bufhels make one minot, and fix a feptier; for coals, eight bufhels make one minot, fixteen a mine, and 320 a muid; for lime, three bufhels make a minot, and forty-eight minots a muid.

BUSKIN, a kind of fhoe, fomewhat in manner of a boot, and adapted to either foot, and worn by either fex.

This part of drefs, covering both the foot and mid-leg, was tied underneath the knee; it was very rich and fine, and principally ufed on the ftage by actors in tragedy. It was of a quadrangular form, and the fole was fo thick, as that by means thereof, men of the ordinary ftature might be raifed to the pitch and elevation of the heroes they perfonated. The colour was generally purple on the ftage: herein it was diftinguifhed from the fock, worn in comedy, that being only a low common fhoe. The bufkin feems to have been worn, not only by actors, but by girls, to raife their height; travellers and hunters alfo made ufe of it, to defend themfelves from the mire.

In claffic authors, we frequently find the bufkin ufed to fignify tragedy itfelf, in regard it was a mark of tragedy on the ftage. It is alfo to be underftood for a lofty ftrain, or high ftile.

BUSS, in maritime-affairs, a ſmall ſea veſſel, uſed by us and the Dutch in the herring fiſhery, commonly from forty-eight to ſixty tons burden, and ſometimes more: a buſs has two ſmall ſheds or cabbins, one at the prow, and the other at the ſtern; that at the prow ſerves for a kitchen.

Every buſs has a maſter, an aſſiſtant, a mate, and ſeamen in proportion to the veſſel's bigneſs: the maſter commands in chief, and without his expreſs order, the nets cannot be caſt, nor taken up; the aſſiſtant has the command after him; and the mate next, whoſe buſineſs is to ſee the ſeamen manage their rigging in a proper manner, to mind thoſe who draw in their nets, and thoſe who kill, gut, and cure the herrings, as they are taken out of the ſea: the ſeamen do generally engage for a whole voyage in the lump. The proviſion which they take on board the buſſes, conſiſt commonly in biſket, oat-meal, and dried or ſalt-fiſh; the crew being content for the reſt with what freſh fiſh they catch. See FISHERY.

BUST, or BUSTO, in ſculpture, *&c.* a term uſed for the figure or portrait of a perſon in relievo, ſhewing only the head, ſhoulders, and ſtomach, the arms being lopped off: it is uſually placed on a pedeſtal or conſole.

M. Felibien obſerves, that tho', in painting, one may ſay a figure appears in buſto, yet it is not properly called a buſt; that word being confined to things in relievo. The buſt is the ſame with what the latins called *herma*, from the Greek hermes, Mercury, the image of that god being frequently repreſented in that manner by the Athenians.

BUST is alſo uſed, eſpecially by the Italians, for the trunk of a human body, from the neck to the hips.

BUSTARD, in ornithology, the engliſh name of a genus of birds, called by authors otis. See the article OTIS.

BUSTUARII, in roman antiquity, gladiators who fought about the buſtum, or funeral pile of a deceaſed perſon of diſtinction, in the ceremony of his obſequies.

This cuſtom was found to be leſs barbarous than the firſt practice was of ſacrificing captives at the buſtum, or on the tomb of warriors; inſtances whereof we meet with both in roman and greek antiquities: the blood ſpilt on this occaſion, was ſuppoſed to appeaſe, by way of ſacrifice, the infernal gods, that they might be more propitious to the manes of the deceaſed.

BUSTUARIÆ MOECHÆ, according to ſome, women that were hired to accompany the funeral, and lament the loſs of the deceaſed: but others are of opinion, that they were rather the more common proſtitutes, that ſtood among the tombs, graves, and other ſuch lonely places.

BUSTUM, in antiquity, a pyramid or pile of wood, upon which were antiently placed the bodies of the deceaſed, in order to be burnt. Some authors ſay, that it was properly called buſtum after the burning, *quaſi bene uſtum*; that before the burning it was called *pyra*, and during the burning, *rogus*. See BURNING.

The buſtum in the Campus Martius was encompaſſed round with white ſtone, and an iron rail.

BUT, or BUTT. See the article BUTT.

BUTCHER, a perſon who ſlaughters cattle for the uſe of the table, or who cuts up and retails the ſame.

Among the antient Romans, there were three kinds of eſtabliſhed butchers, whoſe office was to furniſh the city with the neceſſary cattle, and to take care of preparing and vending their fleſh. The ſuarii provided hogs; the pecuarii or boarii, other cattle, eſpecially oxen; and under theſe was a ſubordinate claſs whoſe office was to kill, called lanii, and carnifices.

To exerciſe the office of butcher among the Jews with dexterity, was of more reputation than to underſtand the liberal arts and ſciences. They have a book concerning ſhamble-conſtitution; and in caſe of any difficulty, they apply to ſome learned rabbi for advice: nor was any allowed to practiſe this art, without a licenſe in form; which gave the man, upon evidence of his abilities, a power to kill meat, and others to eat what he killed; provided he carefully read every week for one year, and every month the next year, and once a quarter during his life, the conſtitution above-mentioned.

We have ſome very good laws for the better regulation and preventing the abuſes committed by butchers. A butcher that ſells ſwine's fleſh meazled, or dead of the murrain, for the firſt offence ſhall be amerced; for the ſecond, have the pillory; for the third be impriſoned and make fine; and for the fourth, abjure the town. Butchers not ſelling meat at reaſonable prices, ſhall forfeit double the value,

value, leviable by warrant of two juſtices of the peace. No butcher ſhall kill any fleſh in his ſcalding-houſe, or within the walls of London, on pain to forfeit for every ox ſo killed, 12 d. and for every other beaſt, 8 d. to be divided betwixt the king and the proſecutor.

Butcher-bird, in ornithology, the engliſh name of the lanius. See Lanius.

Butcher's-broom, *ruſcus*, in botany. See the article Ruscus.

BUTE, an iſland of Scotland, lying in the mouth of the frith of Clyde, ſouth of Cowal in Argyleſhire. It gives the title of earl to a branch of the Stuart family. Bute and Cathneſs ſend only one member to parliament between them, each chuſing in its turn, whereof Bute has the firſt choice.

BUTEO, the Buzzard, in ornithology, a bird of the hawk-kind, about the ſize of a ſmall pullet, the beak of which is of a bluiſh black, and covered with a yellow membrane down to the noſtrils.

BUTLER, *buticularius*, the name antiently given to an officer in the court of France, being the ſame as the grand echanſon, or great cup-bearer of the preſent times.

Butler, in the common acceptation of the word, is an officer in the houſes of princes and great men, whoſe principal buſineſs is to look after the wine, plate, &c.

BUTLERAGE *of wine* is a duty of two ſhillings for every ton of wine imported by merchants ſtrangers; being a compoſition in lieu of the liberties and fredoms granted to them by king John and Edward I. by a charter called charta mercatoria.

Butlerage was originally the only cuſtom that was payable upon the importation of wines, and was taken and received by virtue of the regal prerogative, for the proper uſe of the crown. But for many years paſt, there having been granted by parliament ſubſidies to the kings of England, and the duty of butlerage not repealed, but confirmed, they have been pleaſed to grant the ſame away to ſome nobleman, who, by virtue of ſuch grant, is to enjoy the full benefit and advantage thereof, and may cauſe the ſame to be collected in the ſame manner that the kings themſelves were formerly wont to do.

BUTMENTS, in architecture, thoſe ſupporters or props on or againſt which the feet of arches reſt. See Bridge.

Butment is alſo the term given to little places taken out of the yard or groundplot of a houſe, for a buttery, ſcullery, &c.

BUTOMUS, the Flowering-bush, in botany, a genus of plants of the enneandria hexagynia claſs, the flower of which conſiſts of ſix roundiſh, concave, fading petals, alternately exterior, ſmaller, and more acute: the fruit conſiſts of ſix oblong, gradually attenuated capſules, erect, of one valve, opening inwards, and containing ſeveral oblong cylindric ſeeds, obtuſe at both ends. The herb is ſaid to be of an aperient and deobſtruent quality. See plate XXXIV. fig. 4.

BUTRINTO, a port-town of Epirus, or Canina, in Turky, in Europe, ſituated oppoſite to the iſland of Corfu, at the entrance of the gulph of Venice; eaſt longitude 20° 40′, north latitude 39° 45′.

BUTT, in commerce, a veſſel or meaſure of wine, containing two hogſheads, or 126 gallons. See the article Pipe.

Butt, or Butt-ends, in the ſea language, are the fore-ends of all planks under water, as they riſe, and are joined one end to another.

Butt-ends in great ſhips are moſt carefully bolted; for if any one of them ſhould ſpring or give way, the leak would be very dangerous and difficult to ſtop.

BUTTER, a fat unctuous ſubſtance, prepared from milk by heating or churning it.

It was late before the Greeks appear to have had any notion of butter; their poets make no mention of it, and yet are frequently ſpeaking of milk and cheeſe. The Romans uſed butter no otherwiſe than as a medicine, never as a food. The antient chriſtians of Egypt burnt butter in their lamps inſtead of oil; and in the roman churches, it was antiently allowed, during chriſtmas time, to burn butter inſtead of oil, on account of the great conſumption of it other ways.

For the making of butter, when it has been churned, open the churn, and with both hands gather it well together, take it out of the butter-milk, and lay it into a very clean bowl, or earthen pan; and if the butter be deſigned to be uſed ſweet, fill the pan with clear water, and work the butter in it to and fro, till it is brought to a firm conſiſtence of itſelf, without any moiſture. When this has been done, it muſt be ſcotched and ſliced over with the point of a knife, every way as thick as

as poffible, in order to fetch out the fmalleft hair, mote, bit of rag, ftrainer, or any thing that may have happened to fall into it. Then fpread it thin in a bowl and work it well together, with fuch quantity of falt as you think fit, and make it up into difhes, pounds, half pounds, *&c.* The newer the butter is, the more wholefome and pleafant it is; and that which is made in May, is efteemed the beft.

Butter, by the texture and nature of its fubftance, tends to relax the folids, and fupplies the juices with light and adhefive particles. Upon the firft account, it may be good in dry and coftive conftitutions; but muft be hurtful in lax, moift, and corpulent ones. By the levity and tenacity of its parts, it is alfo very apt to ftop in the glands and capillaries; by which means it fouls the vifcera, but particularly the fmall glands of the fkin; hence it is apt to produce blotches, and all cutaneous difeafes.

There are as many forts of butter, as there are different milks of animals whereof to make it: that of the cow is moft in ufe. It is ufed every where, and there is hardly any fauce made without it. The northern people, however, make more ufe of it than others.

Every barrel of butter, imported from abroad, pays a duty of 3 s. $10\frac{20}{100}$d. whereof 3 s. $4\frac{1}{2}$d. is drawn back on exporting it. Irifh butter pays only a duty of 1 s. $11\frac{10}{100}$d. the hundred weight; whereof 1 s. $8\frac{25}{100}$d. is drawn back on exporting it.

BUTTER, among chemifts, a name given to feveral preparations, on account of their confiftence refembling that of butter; as butter of antimony, of arfenic, of wax, of lead, of tin, *&c.*

BUTTER-BUR, in botany, the englifh name of a genus of plants, called by authors petafites. See the article PETASITES.

BUTTER-FISH, a name given to the gunnellus of authors. See GUNNELLUS.

BUTTERFLY, the englifh name of a numerous genus of infects, called by zoologifts papilio. See the article PAPILIO.

BUTTERFLY FISH, a fpecies of the blennius of ichthyologifts, with a furrow between the eyes. See BLENNIUS.

BUTTERFLY-SHELL, in natural hiftory, the englifh name of a fpecies of voluta.

BUTTERIS, in the manege, an inftrument of fteel, fitted to a wooden handle, wherewith they pare the foot, or cut the hoof of a horfe.

BUTTER-MILK, a kind of ferum that remains behind, after the butter is made. Of this curds may be made, which are good when eat either with cream, wine, ale or beer. And the whey kept in a clean ftrong veffel, is an excellent cooling, wholefome drink, to be ufed in the fummer inftead of other drink, and will quench the thirft better than beer.

Butter-milk is efteemed an excellent food, in the fpring efpecially, and is particularly recommended in hectic fevers.

BUTTER-WORT, in botany, the englifh name of a diftinct genus of plants, called by botanifts pinguicula. See the article PINGUICULA.

BUTTERY, a room in the houfes of noblemen and gentlemen, belonging to the butler, where he depofites the utenfils belonging to his office, as table linen, napkins, pots, tankards, glaffes, cruets, falvers, fpoons, knives, forks, pepper, muftard, *&c.*

As to its pofition, Sir Henry Wotton fays, it ought to be placed on the north fide of the building, which is defigned for offices. In England we generally place it near the cellar, *viz.* the room commonly juft on the top of the cellar ftairs.

BUTTOCK OF A SHIP, is that part of her, which is her breadth right a-ftern, from the tack upwards; and a fhip is faid to have a broad or a narrow buttock, according as fhe is built, broad or narrow at the tranfum.

BUTTON, an article of drefs, ferving to faften cloaths tight about the body, made of metal, filk, mohair, *&c.* in various forms. Metal buttons are either caft in moulds, in the manner of other fmall works, (See FOUNDERY) or made of thin plates of gold, filver, or brafs, whofe ftructure is very ingenious, though but of little ufe.

Buttons of all forts are prohibited to be imported.

BUTTON, among gardeners, denotes much the fame with bud. See the article BUD.

BUTTON, in the manege. Button of the reins of a bridle is a ring of leather, with the reins paffed through it, which runs all along the length of the reins. To put a horfe under the button is, when a horfe is ftopped without a rider upon his back, the reins being laid on his neck, and the button lowered fo far down, that the reins bring in the horfe's head, and fix it to the true pofture or carriage. It is not only the horfes, which are managed in the hand,

hand, that muft be put under the button; for the fame method muft be taken with fuch horfes as are bred between two pillars, before they are backed.

BUTTON'S-BAY, the name of the north part of Hudfon's-bay, in North America, whereby Sir Thomas Button attempted to find out a north-weft paffage to the Eaft-Indies. It lies between 80° and 100° weft longitude, and between 60° and 66° north latitude.

BUTTON-TREE, a name fometimes given to two very diftinct genuffes of plants, the platanus and cephalanthus.

BUTTON-TREE of Jamaica, the fame with the conocarpus of botanifts.

BUTTRESS, a kind of butment built archwife, or a mafs of ftone or brick, ferving to prop or fupport the fides of a building, wall, &c. on the outfide, where it is either very high, or has any confiderable load to fuftain on the other fide, as a bank of earth, &c.

Buttreffes are ufed againft the angles of fteeples and other buildings of ftone, &c. on the outfide, and along the walls of fuch buildings as have great and heavy roofs, which would be fubject to thruft the walls out, unlefs very thick, if no buttreffes were placed againft them: they are alfo placed for a fupport and butment againft the feet of fome arches, that are turned acrofs great halls, in old palaces, abbeys, &c.

The theory and rules of buttreffes are one of the defiderata in architecture; but the fize and weight of them ought to be in proportion to the dimenfions and form of the arch, and the weight which is fuperincumbent on it.

As to the weight of the materials, both on the arch and in the buttrefs, it is not difficult to calculate: but it may be objected, that there may be a fenfible difference, as to the ftrength and goodnefs of the mortar, which may, in fome meafure, compenfate for the weight of the buttrefs.

BUTZAW, a town of lower Saxony, in Germany: it ftands upon the river Varnow, on the road from Schwerin to Roftock.

BUXTON, a place in the peak of Derbyfhire, celebrated for medicinal waters; the hotteft in England, next to Bath.

BUXTON-WELLS. The ftrata of earth and minerals, in the parts adjacent to Buxton, are peat mofs, blue clay, iron, and coal, mixed with fulphur, and brafil. See the article BATH.

The warm waters there, at prefent, are the bath, which takes in feveral warm fprings, St. Ann's-well, a hot and cold fpring rifing up into the fame receptacle, and Bingham-well.

Thefe waters greatly promote digeftion, unlefs they are drank too long, in which cafe they relax the ftomach, and retard all the digeftion: they are well adapted to obftructions of every kind, whence they produce furprizing effects in gouty, rheumatic, athritic and fcorbutic pains; their irritation and effects are relaxation and dilution, and wherever thefe are indicated, this water will be of the greateft fervice: it is of great benefit in thofe obftructions, which arife from a fharpnefs, faltnefs, or earthinefs of the blood and lymph, or from an accidental difpofition to a rarefaction of the blood. As this water is warm, highly impregnated with a mineral fteam, vapour, or fpirit; it is fignally beneficial to cramps, convulfions, dry aftmas, bilious cholic, ftiffnefs, &c.

They advife both drinking and bathing in the ufe of thefe waters; only the laft is of bad confequence in the gout, inward inflammations, fevers, dyfentery, large inward tumours, or in an outward preffure of the body.

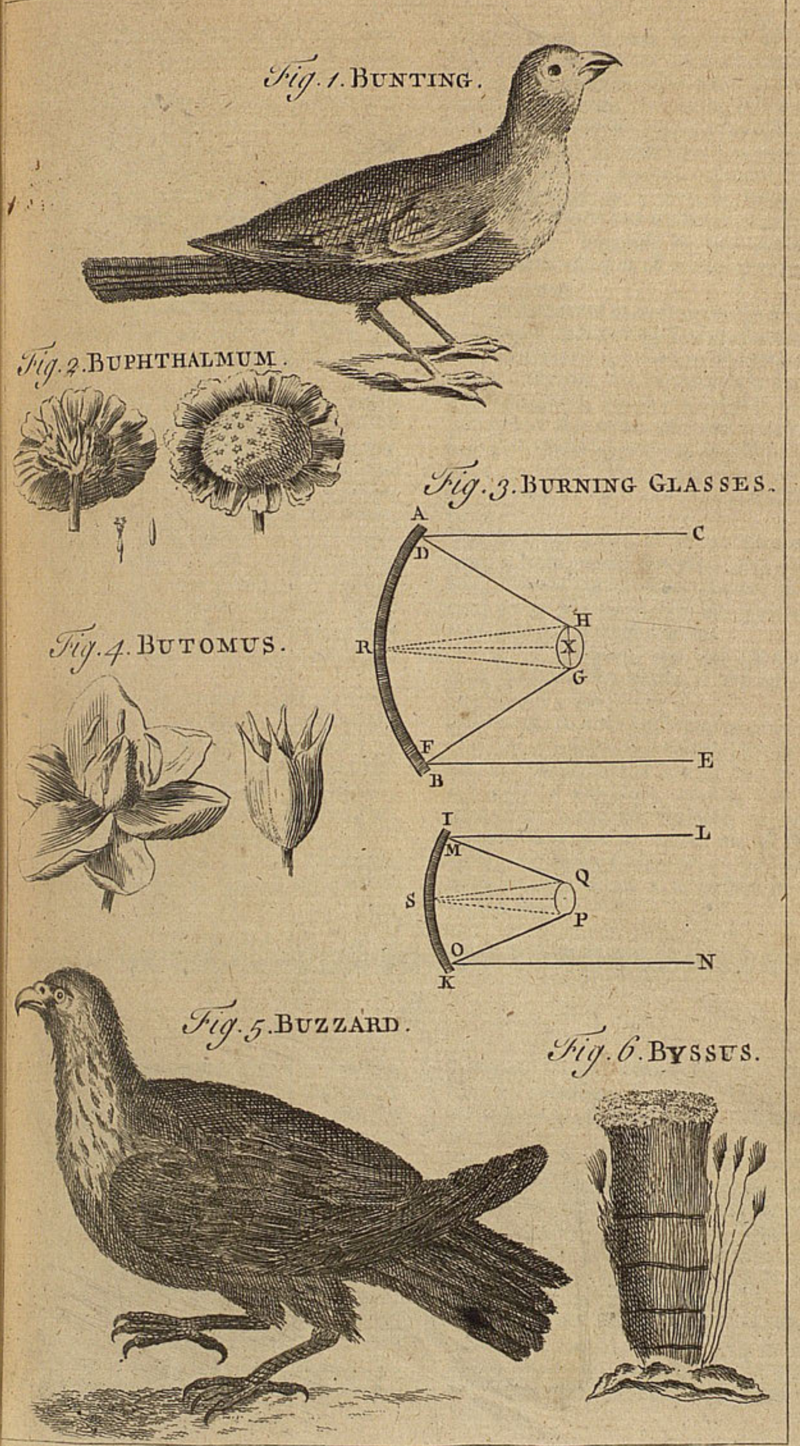
As to the age, fex, and conftitution of the patient, the particular lightnefs and purity of thefe waters recommend their ufe, as fafe and fuccefsful to almoft every body in whatever circumftances.

BUXUS, the BOX-TREE, in botany, a genus of the monoecia tetrandria clafs of plant, in which the male and female flowers are diftinct; the former confifting of only two roundifh petals, fomewhat larger than thofe of the cup, to which, however, they bear a very great refemblance; whereas the latter, or female flower, confifts of three fuch petals. The fruit is a roundifh trilocular capfule, containing two oblong feeds, roundifh on one fide and plain on the other.

BUYS, a town of Dauphine, in France, fituated on the confines of Provence: eaft longitude 5° 20′, and north latitude 44° 25′.

BUZZARD, *buteo*, in ornithology, the englifh name of feveral fpecies of the hawk-kind, diftinguifhed from each other by particular epithets; as, 1. The baldbuzzard, with blue legs. 2. The common buzzard. 3. The honey-buzzard. 4. The fubbuteo, or the hen harrier, and the ring-tail. 5. The moor-buzzard. See the common buzzard reprefented in plate XXXIV. fig. 5.

BYGHOF, or BYGOW, a city of Lithuania,



T. Jefferys sculp.

ania, in Poland, situated on the river Nieper: east longitude 30°, and north latitude 53°.

BY-LAWS, or BYE-LAWS, private and peculiar laws for the good government of a city, court, or other community, made by the general consent of the members. All by-laws are to be reasonable, and for the common benefit, not private advantage of any particular persons, and must be agreeable to the public laws in being. If made by corporations, they are to be approved by the lord-chancellor or chief justices, or justices of assize, on pain of 40l. if against the good of the public.

But it is said, a corporation cannot make by-laws without a custom for it, or the king's charter; nor may they make any by-law to bind strangers that live out of their corporation, or to restrain a person from working in or setting up his trade, though it may be for the order and regulating of trades; and notwithstanding such a by-law may inflict a reasonable penalty, which may be recovered by distress or action of debt, yet none can be imprisoned upon it, as it is contrary to *magna charta*.

BYRLAW, or BURLAW LAWS, in Scotland, are made and determined by neighbours, elected by common consent in byrlaw courts. The men, chosen as judges, are called byrlaw or burlaw-men, and take cognizance of complaints between neighbour and neighbour.

BYSSUS, in botany, a genus of mosses, consisting of plain, simple, capillary filaments.

The byssus is the most imperfect of all vegetables, no part of its fructification having been hitherto discovered: its filaments are uniform, and often so fine as to be scarce discernible singly; though, in a cluster, they make a kind of fine down. Botanists are not agreed, whether the byssus be properly a moss or fungus. Linnæus is of the latter opinion, and the generality of botanists of the former. Dillenius thinks it is of a middle nature between both.

This difference of opinion probably arose from hence, that authors have confounded two very distinct vegetables under the name byssus; the one, the filamentose bodies, described above, which are the only true byssi; and the other, the dusty matter found on rotten vegetables, consisting of small globules, which are truly fungi, or mushrooms. See plate XXXIV. fig. 6.

The byssi are nearly allied to the confervæ; from which, however, they differ, as consisting of finer, shorter, and more tender filaments, and not growing in water, as the confervæ do.

BYSSUS, in antiquity, that fine egyptian linen, whereof the tunics of the jewish priests were made.

Philo says, that the byssus is the clearest and most beautiful, the whitest, strongest, and most glossy sort of linen; that it is not made of any thing mortal, that is to say, of wool, or the skin of any animal, but that it comes out of the earth, and becomes always whiter, and more shining, when it is washed as it should be.

C

C, The third letter, and second consonant of the alphabet, is formed by forcing the breath between the tongue, elevated near the palate (to make the voice somewhat sibilous) with the lips open. It has two sounds, hard and soft; hard, like k before a, o, u, l, and r; as in call, cost, cup, clean, crop; and soft, like s before i, e, and y; as in city, cession, cyder: before h it has a peculiar sound, as in chance, chalk: in chord, chart, and some other words, it is hard like k: but in many French words it is soft before h, like s, as in chaise, chagrin.

As an abbreviature, C stands for Caius, Carolus, Cæsar, *condemno*, *&c.* and C C for *consulibus*.

As a numeral, C signifies 100, CC 200, *&c.*

Among the French, C stands for *compte*, account; C. C. for *compte courant*, account current; M. C. *mon compte*, my account; C. O. *compte ouvert*, open account; S. C. *son compte*, his account; L. C. *leur compte*, their account; N. C. *notre compte*, our account, *&c.*

C, in music, the highest part in the thorough bass; again, a simple C, or rather a semicircle, placed after the cliff, intimates, that the music is in common time,

time, which is either quick or flow, as it is joined with alegro or adagio: if alone, it is ufually adagio.

If the C be croffed or turned, the firft requires the air to be played quick, and the laft very quick.

CAABA, or CAABAH, properly fignifies a fquare building; but is particularly applied by the Mahometans, to the temple of Mecca, built, as they pretend, by Abraham, and Ifhmaël his fon. It is towards this temple they always turn their faces when they pray, in whatever part of the world they happen to be. The Mahometans will have the caaba to have been a place of worfhip in Adam's days: at firft it was only a tent, which had been fent down from heaven, as a proper place wherein to worfhip the true God. It was accordingly often vifited by Adam on that account, as well as by Seth his fon, who firft built a ftone temple on the fpot. This having been demolifhed by the deluge, was afterwards rebuilt by Abraham and Ifhmael. The tradition adds, that it was on occafion of Abraham's facrifice of his fon Ifhmael, that this edifice was raifed by order of God himfelf; and that the horns of the ram, which had been facrificed in Ifhmael's place, were faftened to the golden fpout of the caaba, where they continued to the time of Mahomet, who took them away, to remove from the Arabs all occafion of idolatry.

The length of the caaba is about twenty-four cubits, its breadth twenty-three, and height twenty-feven cubits; the door which is on the eaft-fide, being four cubits from the ground, and the floor level with the bottom of the door. In the corner next this door, is the famous black ftone, which is fet in filver, and exceedingly refpected by the Mahometans. The pilgrims kifs it with great devotion, and it is by fome called the right-hand of God on earth. It is fabled to be one of the precious ftones of Paradife, which fell down to the earth with Adam, and being taken up again at the deluge, was brought back by the angel Gabriel to Abraham when he was building the caaba. It was at firft whiter than milk, but grew black long ago; fome fay by the touch of a menftruous woman, others by the fins of mankind, others by the numerous kiffes of the devotees. On the north-fide of the caaba, within a femicircular inclofure, lies the white ftone, faid to be the fepulchre of Ifhmael, which receives the rain water that falls off the caaba, by a fpout formerly of wood, but now of gold. The caaba has a double roof, fupported within by three octangular pillars of aloes wood, between which, on a bar of iron, hang fome filver lamps. The outfide is covered with rich black damafk, adorned with an embroidered border of gold, which is changed every year, and was formerly fent by the caliphs, afterwards by the fultans of Egypt, but now provided by the turkifh emperors. At a fmall diftance from the caaba, on the eaft fide is the ftation or place of Abraham, where is another ftone wherein they pretend to fhew the footfteps of that patriarch, fuppofed to have been made when he ftood on it in building the caaba, where it ferved him for a fcaffold, with this peculiar advantage, that it rofe and fell of itfelf as he had occafion.

This temple enjoys the privilege of an affylum for all forts of criminals; but it is moft remarkable for the pilgrimages made to it by the devout Muffulmen, who pay fo great a veneration to it, that they believe a fingle fight of its facred walls, without any particular act of devotion, is as meritorious, in the fight of God, as the moft careful difcharge of one's duty, for the fpace of a whole year, in any other temple.

CAB, an hebrew dry meafure, being the fixth part of a feah or fatum, and the eighteenth part of an epha: a cab contained 2⅚ pints of our corn meafure: a quarter-cab was the meafure of dove's dung, or more properly a fort of chick-peafe, called by this name, which was fold at Samaria, during the fiege of that city, for five fhekels.

CABBAGE, a fpecies of braffica. See the article BRASSICA.

There are feveral forts of cabbages cultivated in the gardens for the ufe of the kitchen, as the common white and red cabbages, the ruffian cabbage, the batterfea and fugar-loaf cabbages, the favoy cabbages; the borecole, the cauliflower, the broccoli, *&c.*

The manner of faving the feeds of all the beft forts of cabbages is, to make choice of your beft cabbages about the middle of November, and thefe being pulled up, fhould be carried to fome fhed, and hung for three or four days by the ftalks, that the water may drain from between the leaves; then plant them in fome border, under an hedge, quite down to the middle of the cabbage.

If

If the winter ſhould prove very hard, you ſhould lay a little ſtraw or peaſe-haulm lightly upon them, taking it off as often as the weather proves mild. In the ſpring, when thoſe cabbages ſhoot out ſtrongly, and divide into a number of ſmaller branches, you muſt ſupport their ſtems; and if the weather ſhould prove very hot and dry, you ſhould refreſh them with water once a week: when the tops begin to look brown, cut off the extreme part of every ſhoot; and when your ſeeds begin to ripen, you muſt take care that the birds do not deſtroy it, as they are very fond of theſe ſeeds: in order to prevent which, ſome throw old nets over their ſeeds; but the beſt method is, to get a quantity of bird-lime, and dawb over a parcel of ſlender twigs, faſtened at each end to ſtronger ſticks, placed near the upper part of the ſeed, that the birds may alight upon them, and by that means be faſtened thereto: when the ſeeds are fully ripe, you muſt cut them off, and, after drying, threſh them out, and preſerve them in bags for uſe.

In Holland and Flanders, there are an incredible number of mills, for preparing an oil from the ſeeds of reddiſh cabbages, ſaid to be good for ſeveral purpoſes.

Sea-CABBAGE, a name by which the crambe of botaniſts is ſometimes called. See the article CRAMBE.

CABBAGE-TREE, a name ſometimes given to the palm-tree, called by Linnæus, phœnix. See the article PHOENIX.

CABBAGING, among gardeners, a term uſed for the knitting of cabbages into round heads. See the article CABBAGE.

CABBALA, properly ſignifies tradition, and is the name of a myſterious kind of ſcience, thought to have been delivered by revelation to the antient Jews, and tranſmitted by oral tradition to thoſe of our times; ſerving for the interpretation of the books both of nature and ſcripture.

The manner in which Maimonides explains the cabbala, or traditions of the Jews, in his preface to the Miſhna, is as follows: 'God not only delivered the law to Moſes on Mount Sinai, but the explanation of it likewiſe. When Moſes came down from the Mount, and entered into his tent, Aaron went to viſit him, and Moſes acquainted Aaron with the laws he had received from God, together with the explanation of them. After this Aaron placed himſelf at the right-hand of Moſes, and Eleazar and Ithmar, the ſons of Aaron, were admitted, to whom Moſes repeated what he had juſt before told to Aaron. Theſe being ſeated, the one on the right, the other on the left-hand of Moſes, the ſeventy elders of Iſrael, who compoſed the Sanhedrim, came in. Moſes again declared the ſame laws to them, with the interpretations of them, as he had done before to Aaron and his ſons. Laſtly, all who pleaſed of the common people were invited to enter, and Moſes inſtructed them likewiſe in the ſame manner as the reſt: ſo that Aaron heard four times what Moſes had been taught by God upon Mount Sinai; Eleazar and Ithmar, three times; the ſeventy elders, twice; and the people, once. Moſes afterwards reduced the laws which he had received into writing, but not the explanations of them: theſe he thought it ſufficient to truſt to the memories of the above-mentioned perſons, who being perfectly inſtructed in them, delivered them to their children, and theſe again to theirs from age to age.'

The Cabbala, therefore, is properly the oral law of the Jews, delivered down by word of mouth from father to ſon; and it is to theſe interpretations of the written law, that our Saviour's cenſure is to be applied, when he reproves the Jews for making the commands of God of none effect, through their traditions.

Some of the Rabbins pretend, that the origin of the cabbala is to be referred to the angels, that the angel Raziel inſtructed Adam in it; the angel Japhiel, Shem; the angel Zedekiel, Abraham, &c. But the truth is, theſe explications of the law are only the ſeveral interpretations and deciſions of the Rabbins, on the law of Moſes; in the framing of which, they ſtudied principally the combinations of particular words, letters, and numbers, and by that means pretended to diſcover clearly the true ſenſe of the difficult paſſages of the ſcripture.

This is properly the artificial cabbala, to diſtinguiſh it from ſimple tradition; and it is of three ſorts: The firſt, called Gematria, conſiſts in taking letters as figures, and explaining words by the arithmetical value of the letters of which they are compoſed. For inſtance, the Hebrew letters of יבא שילה *Jabo-ſchiloh*, i. e. *Shiloh ſhall come*, make up the ſame

 arith-

arithmetical number, as משיח *Meſſiach*, the Meſſiah, from whence they conclude that Shiloh ſignifies the Meſſiah.

The ſecond kind of artificial cabbala, which is called Notaricon, conſiſts in taking each particular letter of a word for an entire diction, for example of בראשית, *Bereſchith*, which is the firſt word of Geneſis, compoſed of the letters B. R. A. SCH. J. TH. they make *Bara-Rakiah-Arez-Schamaim-Jam-Tehemoth*, i. e. *He created the firmament, the earth, the heavens, the ſea, and the deep*; or in forming one intire diction out of the initial letters of many; thus, in *Atah-Gibbor-Leholam-Adonai*, i. e. *Thou art ſtrong for ever, O Lord*, they put the initial letters of each word that compoſe this ſentence together, and form the word אגלא *Agla*, which ſignifies either *I will reveal*, or a *drop of dew*, which is the cabbaliſtic name of God.

The third kind of cabbala, called Themura, conſiſts in changing and tranſpoſing the letters of a word: thus, of the word *Bereſchith* with which Geneſis begins, they make *A-betiſri*, which ſignifies the *firſt of the month Tiſri*; and infer from thence, that the world was created on the firſt day of the month Tiſri, which anſwers nearly to our September.

The cabbala, according to the Jews, is a noble and ſublime ſcience, conducting men, by eaſy methods, to the profoundeſt truths. Without it, they think the holy ſcriptures could not be diſtinguiſhed from profane books, wherein we find ſome miraculous events, and as pure morality as that of the law, if we did not penetrate into the truths locked up under the external cover of the literal ſenſe. Some viſionaries among the Jews believe that Jeſus Chriſt wrought his miracles by virtue of the myſteries of the cabbala. Some learned men are of opinion that Pythagoras and Plato learned the cabbaliſtic art of the Jews in Egypt. Others, on the contrary, ſay that the philoſophy of Pythagoras and Plato furniſhed the Jews with the cabbala. Moſt of the heretics in the primitive chriſtian church fell into the vain conceits of the cabbala, particularly the Gnoſtics, Valentinians, and Baſilidians; and Henry More aſſures us, that all his learning and philoſophy ended in mere ſcepticiſm, till he applied his mind to the divine and hidden ſcience of the cabbala, which in a ſhort time brought him forth into the moſt glorious light, and filled his ſoul with notices utterly ineffable.

On the other hand, Dr. Burnet examines into the merits of the ſeveral parts of the cabbala, and finds it to be without any rational foundation, and not conducing to any real knowledge. But he conjectures, that the moſt antient cabbala, before it was confounded and defiled with fables, might contain ſomething of the original of things, and their gradations; particularly, that before the creation, all things had their being in God; that from him they flowed as emanations; that they will all flow back again into him, when they are deſtroyed; and that there will ſucceed other emanations and regenerations, and other deſtructions and abſorptions to all eternity, as they had been from all eternity; that nothing is produced out of nothing; and that the things produced, never return to nothing, but always have their ſubſiſtence in God.

CABBALISTS, the jewiſh doctors, who profeſs the ſtudy of the cabbala.

In the opinion of theſe men, there is not a word, letter, or accent in the law, without ſome myſtery in it. The Jews are divided into two general ſects; the karaites, who refuſe to receive either tradition or the talmud, or any thing but the pure text of ſcripture; and the rabbiniſts, or talmudiſts, who, beſides this, receive the traditions of the antients, and follow the talmud.

The latter are again divided into two other ſects; pure rabbiniſts, who explain the ſcripture, in its natural ſenſe, by grammar, hiſtory, and tradition; and cabbaliſts, who, to diſcover hidden myſtical ſenſes, which they ſuppoſe God to have couched therein, make uſe of the cabbala, and the myſtical methods above mentioned.

CABBIN, or Cabin. See Cabin.

CABECA, or Cabesse, a name given to the fineſt ſilks in the Eaſt Indies, as thoſe from 15 to 20 *per cent.* inferior to them, are called barina. The indian workmen endeavour to paſs them off one with the other: for which reaſon, the more experienced european merchants take care to open the bales, and to examine all the ſkains one after another. The Dutch diſtinguiſh two ſorts of cabeças; namely, the moor cabeça and the common cabeça. The former is ſold at Amſterdam for about 21 ½ ſchellinghen flemiſh, and the other for about 18 ½.

CABENDA, a port-town of Congo, in Africa, ſubject to the Portugueſe; eaſt longitude 12°, and ſouth latitude 4°.

CABIDOS, or CAVIDOS, a long meaſure uſed at Goa, and in other places of the Eaſt Indies belonging to the Portugueſe, to meaſure ſtuffs, linens, &c. and equal to ⅘ of the Paris ell.

CABIN, or CABBIN, in the ſea-language, a ſmall room, or apartment, whereof there are a great many in ſeveral parts of a ſhip; particularly on the quarter-deck, and on each ſide of the ſteerage, for the officers of the ſhip to lie in.

The great cabin is the chief of all, and that which properly belongs to the captain, or chief commander.

CABINET, or CABBINET, the moſt retired place in the fineſt part of a building, ſet apart for writing, ſtudying, or preſerving any thing that is precious.

A complete apartment conſiſts of a hall, anti-chamber, chamber, and cabinet, with a gallery on one ſide. Hence we ſay, a cabinet of paintings, curioſities, &c.

CABINET alſo denotes a piece of joiner's workmanſhip, being a kind of preſs or cheſt, with ſeveral doors and drawers.

There are common cabinets of oak or of cheſnut, varniſhed cabinets of China and Japan, cabinets of inlaid work, and ſome of ebony, or the like ſcarce and precious woods.

Formerly the dutch and german cabinets were much eſteemed in France, but are now quite out of date, as well as the cabinets of ebony, which came from Venice.

CABIRI, a term in the theology of the antient Greeks, ſignifying great and powerful gods; being a name given to the gods of Samothracia. They were alſo worſhiped in other parts of Greece, as Lemnos and Thebes, where the Cabiria were celebrated in honour of them: theſe gods are ſaid to be, in number, four, *viz.* Axieros, Axiocerſa, Axiocerſus, and Caſmilus. See the next article.

CABIRIA, feſtivals in honour of the Cabiri, celebrated in Thebes and Lemnos, but eſpecially in Samothracia, an iſland conſecrated to the Cabiri. All who were initiated into the myſteries of theſe gods, were thought to be ſecured thereby from ſtorms at ſea, and all other dangers. The ceremony of initiation was performed, by placing the candidate, crowned with olive branches, and girded about the loins with a purple ribband, on a kind of throne, about which the prieſts, and perſons before initiated, danced.

CABLE, a thick, large, ſtrong rope, commonly of hemp, which ſerves to keep a ſhip at anchor.

There is no merchant ſhip, however weak, but has, at leaſt, three cables; namely, the chief cable, or cable of the ſheet-anchor, a common cable, and a ſmaller one.

Cable is alſo ſaid of ropes, which ſerve to raiſe heavy loads, by the help of cranes, pullies, and other engines. The name of cable is uſually given to ſuch as have, at leaſt, three inches in diameter; thoſe, that are leſs, are only called ropes of different names, according to their uſe.

Every cable, of what thickneſs ſoever it be, is compoſed of three ſtrands; every ſtrand of three ropes; and every rope of three twiſts: the twiſt is made of more or leſs threads, according as the cable is to be thicker or thinner.

In the manufacture of cables, after the ropes are made, they uſe ſticks, which they paſs firſt between the ropes of which they make the ſtrands, and afterwards between the ſtrands of which they make the cable, to the end that they may all twiſt the better, and be more regularly wound together; and alſo, to prevent them from twining or intangling, they hang, at the end of each ſtrand and of each rope, a weight of lead or of ſtone.

The number of threads, each cable is compoſed of, is always proportioned to its length and thickneſs; and it is, by this number of threads, that its weight and value are aſcertained: thus, a cable of three inches circumference, or one inch diameter, ought to conſiſt of 48 ordinary threads, and weigh 192 pounds; and on this foundation, is calculated the following table, very uſeful for all people engaged in marine commerce, who fit out merchant-men for their own account, or freight them for the account of others.

A table of the number of threads and weight of cables of different circumferences.

Circumf.	Threads.	Weight.
3 inches.	48	192 pounds.
4	77	308
5	121	484
6	174	696
7	238	952
8	311	1244
9	393	1572
10	485	1940
11	598	2392
12	699	2796

Cir-

Circumf.	Threads.	Weight.
13 inches.	821	3284 pounds.
14	952	3808
15	1093	4372
16	1244	4976
17	1404	5616
18	1574	6296
19	1754	7016
20	1943	7772

Sheet anchor CABLE is the greateſt cable belonging to a ſhip.

Serve or plate the CABLE, is to bind it about with ropes, clouts, *&c.* to keep it from galling in the hawſe.

To ſplice a CABLE, is to make two pieces faſt together, by working the ſeveral threads of the rope, the one into the other.

Pay more CABLE, is to let more out of the ſhip. *Pay cheap the cable,* is to hand it out apace. *Veer more cable,* is to let more out, *&c.*

CABLED, in heraldry, a term applied to a croſs, formed of the two ends of a ſhip's cable; ſometimes alſo to a croſs covered over with rounds of rope, more properly called a croſs-corded, as in plate XXXV. fig. 1.

CABLED-FLUTE, in architecture, ſuch flutes as are filled up with pieces, in the form of a cable. See FLUTES.

CABO DE ISTRIA, the capital of the province of Iſtria, in the dominion of Venice, ſituated on the gulph of Venice, about twelve miles ſouth of Trieſte: eaſt longitude 14° 20′, and north latitude 45° 50′.

CABOCHED, in heraldry, is when the heads of beaſts are born without any part of the neck, full faced.

CABOLETTO, in commerce, a coin of the republic of Genoa, worth about three pence of our money.

CABUIA, a ſort of hemp, which grows in the province of Panama, in ſouth America. The plant, which produces it, has leaves like thoſe of a thiſtle, though broader, thicker, and greener. When it is ripe, they ſteep it in water, as they do hemp in Europe, and, after it is dried, beat it with wooden hammers, till there remain nothing but the threads. Of theſe, the Indians make ropes of different ſizes, and ſtrings, which are ſo extremely hard and ſtrong, that they uſe them for ſawing iron, by mounting them on a bow, and putting a little ſand upon the iron, as the work advances.

CABUL, the capital of a province of the ſame name, on the north-weſt of India; Both the town and province of Cabul were ceded to the Perſians in 1739: eaſt long. 69°, and north lat. 33° 30′.

CABURNS, on ſhip-board, are ſmall lines, made of ſpun-yarn, to bind cables, ſeize tackles, or the like.

CACAGOGA, among antient phyſicians, ointments, which, applied to the fundament, procure ſtools. Paulus Ægineta directs to boil alum, mixed with honey, for that purpoſe.

CACAO, the CHOCOLATE-TREE, in botany, a genus of trees, called by Linnæus theobroma. See THEOBROMA.

The fruit of this tree, called cacao-nuts, in order to be good, muſt have a very brown and pretty even ſkin or peel; and when it is taken off, the kernel muſt appear full, plump, and ſhining, of a hazle-nut colour, very dark on the outſide, a little more reddiſh within, of a bitteriſh and aſtringent taſte, without any greeniſh or muſty favour. It is one of the moſt oily fruits, which nature produces, and has this wonderful advantage that it never grows rank, how old ſoever it be, as all other fruits do, which have any analogy with this: ſuch as almonds, kernels of pine-apples, piſtachio-nuts, olives, *&c.* It is brought from Caracca, Marignan, and ſeveral of the iſlands in the Weſt-Indies: but the firſt kind is the beſt. The Mexicans eſteem cacao-nuts as anodyne, and eat them raw, to aſſuage pains of the bowels. In ſome parts of America, the ſeeds are uſed by the Indians as money; twelve or fourteen are valued at a ſpaniſh real, or ſix-pence three farthings ſterling. Of this fruit is made an excellent conſerve, which far excels all the ſweet-meats made in Europe, and alſo chocolate; for the preparation of which ſee the article CHOCOLATE.

CACERES, a town of Eſtremadura, in Spain, about ſeventeen miles ſouth-eaſt of Alcantara; weſt longitude 6° 45′, and north latitude 39° 12′.

CACHAN, a city of Perſia, ſituated in a large plain, about twenty leagues from Iſpahan.

It is remarkable for its manufactures of gold and ſilver ſtuffs, and of fine earthen ware.

CACHAO, or KECHIO, the capital of the kingdom of Tonquin, ſituated on the weſtern ſhore of the river Domea; eaſt long. 105°, and north lat. 22° 30′.

CACHECTIC, ſomething partaking of the

the nature of, or belonging to, a cachexy. See the article CACHEXY.

CACHEMIRE, or KACHEMIRE, a province of Asia, in the country of the Mogul. The inhabitants are thought to have been originally Jews, because they speak much of Moses and Solomon, whom they believe to have travelled into their country.

This also is the name of the capital of that province, situated in 76° east long. and 34° 30′ north latitude.

CACHEXY, in medicine, such a disposition of the body as depraves the nourishment throughout its whole habit.

The causes of a cachexy are any bad state of the nutritious juices, or a fault in the vessels designed for their reception, or a defect of the assimilating faculty. From the first of these causes arise many disorders, according to the various colour, quantity, tenacity, acrimony, fluidity of the distempered humour, as a discolouring of the skin, a swelling under the eyes; the fleshy parts become bloated; and lastly, the body is either reduced to a skeleton, or afflicted with a leucophlegmatia and a dropsy. The vessels may be too contractile or too lax, and consequently the disorders that proceed from thence, may be looked upon as the causes of this disease, and the fault may lie in the assimilating faculty, if the force, by which the fluids are circulated, is too languid or too violent. From what has been said, the diagnostic signs are evident, and the prognostics may be gathered from the consideration of the cause, duration, the effects and degree of the disease, *&c.*

The cure sometimes requires a correction and a moderate inspissation of the too acid fluid. When it is tenacious and stagnating, it must be dissolved. But the medicines must be varied, according to the various causes, from whence these two faults arise. The greatest care must be taken, that the aliment be most like the healthy fluids, and easy of digestion. The organs of digestion should be disposed to perform their office by mild digestives, then by vomits and purges, and by medicines which promote digestion. When, by the use of these, the morbific matter is attenuated, you must proceed to saponaceous remedies, diuretics, and sudorifics, and last of all to chalybeates, with exercise, frictions, and baths.

When a cachectic tabes arises, from too great an acrimony, the nature of that acrimony must be inquired into, and corrected by its contraries.

CACHRYS, in botany, a genus of plants belonging to the pentandria-digynia class; the general flower of which is uniform; the proper flowers consist of five lanceolated, equal, and somewhat erect petals; the fruit is roundish, angulated, obtuse, very large, and separable into two parts, with two seeds very large, very convex on one side, and plane on the other; fungous, and containing a single ovato-oblong nucleus. See plate XXXV. fig. 2.

CACOCHYMIA, κακοχυμια, a vicious state of the vital humours, especially of the mass of blood, arising either from a disorder in the secretions, or excretions, or from external contagion. This word is, by some writers, applied to the abundance or excess of any ill humour, whether it be bile, pituita, or any other, providing there be one that thus offends in quantity.

CACOETHES, in medicine, an epithet applied, by Hippocrates, to malignant and difficult distempers: when applied to signs or symptoms, it imports what is very bad and threatening; and if given to tumours, ulcers, *&c.* it denotes a great malignancy.

CACTUS, TORCH-THISTLE, in botany, a genus of the icosandria-monogynia class of plants, comprehending the torch-thistle, melon-thistle, pereskia, and cochineal-plant; the flower of which consists of a great many broad obtuse petals, the exterior ones short, and the interior ones long and connivent: the fruit is an oblong umbilicated berry, covered with little leaves, like the cup, with one cell, containing numerous, roundish, and small seeds.

This is a culinary plant, which is blanched like celery, and like that eaten raw with pepper and salt in Italy. In the medicinal virtues, it agrees with the cynara, or artichoke.

CADARI, or KADARI, a sect of Mahometans, which attributes the actions of men to men alone, and not to the divine decree determining his will; and denies all absolute decrees, and predestination. Ben Aun calls the cadari, the magi or manichees of the mussulmen.

CADE, a cag, cask, or barrel. A cade of herrings is a vessel, containing the quantity of 500 red herrings, or of sprats 1000.

Cade-lamb, a young lamb, weaned and brought up by hand in a houſe.

Cade-oil, an oil much uſed in France and Germany; it is prepared from the fruit of a ſpecies of cedar, called oxycedrus.

CADENCE, in muſic, according to the antients, is a ſeries of a certain number of notes, in a certain interval, which ſtrike the ear agreeably, and eſpecially at the end of the ſong, ſtanza, &c. It conſiſts ordinarily of three notes.

Cadence, in the modern muſic, may be defined a certain concluſion of a ſong, or of the parts of a ſong, which divide it, as it were, into ſo many numbers or periods. It is when the parts terminate in a chord or note, the ear ſeeming naturally to expect it; and is much the ſame in a ſong, as the period that cloſes the ſenſe in a paragraph of a diſcourſe.

A cadence is either perfect, conſiſting of two notes ſung after each other, or, by degrees, conjoined in each of the two parts, and, by theſe means, ſatisfying the ear; or imperfect, when its laſt meaſure is not in the octave or uniſon, but a ſixth or third. It is called imperfect, becauſe the ear does not acquieſce in the concluſion, but expects a continuation of the ſong. The cadence is ſaid to be broken, when the baſs, inſtead of falling a fifth, as the ear expects, riſes a ſecond, either major or minor. Every cadence is in two meaſures; ſometimes it is ſuſpended, in which caſe it is called a repoſe, and only conſiſts of one meaſure, as when the two parts ſtop at the fifth, without finiſhing the cadence. With regard to the baſs-viol, Mr. Rouſſeau diſtinguiſhes two cadences, one with a reſt, when the finger, that ſhould ſhake the cadence, ſtops a little, before it ſhakes, on the note immediately above that which requires the cadence; and one without a reſt, when the ſtop is omitted.

All cadences are to be accommodated to the characters of the airs.

Cadence, in the manege, an equal meaſure or proportion, obſerved by a horſe in all his motions; ſo that his times have an equal regard to one another, the one does not embrace or take in more ground than the other, and the horſe obſerves his ground regularly.

Cadence, in rhetoric and poetry, the running of verſe or proſe, otherwiſe called the numbers, and by the antients ῥυθμος. See the article Rhyme.

It would be eaſy to give inſtances, in our own, as well as the greek and roman poets, when the cadence is admirably adapted to the ſubject in hand.

Cadence, in dancing, is when the ſeveral ſteps and motions follow, or correſpond, to the notes and meaſures of the muſic.

CADENE, one of the ſorts of carpets, which the Europeans import from the Levant. They are the worſt ſort of all, and are ſold by the piece from one to two piaſters *per* carpet.

CADET, the younger ſon of a family, is a term naturalized in our language from the French. At Paris, among the citizens, the cadets have an equal patrimony with the reſt. At Caux, in Normandy, the cuſtom, as with us, is to leave all to the eldeſt, except a ſmall portion to the cadets. In Spain, it is uſual for one of the cadets in great families, to take the mother's name.

Cadet is alſo a military term, denoting a young gentleman who chooſes to carry arms in a marching regiment, as a private man. His views are to acquire ſome knowledge in the art of war, and to obtain a commiſſion in the army. Cadet differs from volunteer, as the former takes pay, whereas the latter ſerves without any pay.

CADI, or Cadhi, a judge of the civil affairs in the turkiſh empire.

It is generally taken for the judge of a town; judges of provinces being diſtinguiſhed by the appellation of molla's.

In Biledulgerid in Africa, the cadi decides in ſpiritual affairs.

CADILESCHER, a capital officer of juſtice, among the Turks, anſwering to a chief juſtice among us.

It is ſaid that this authority was originally confined to the ſoldiery, but that, at preſent, it extends itſelf to the determination of all kinds of law-ſuits; yet nevertheleſs ſubject to appeals.

There are but three cadileſchers in all the grand ſignior's territories; the firſt is, that of Europe; the ſecond, of Natolia; and the third reſides at Grand Cairo. This laſt is the moſt conſiderable: they have their ſeats in the divan next to the grand vizir.

CADIZ, a city and port-town of Andaluſia in Spain, ſituated on the north-weſt end of the iſland of Leon, or Lyon, oppoſite to Port St. Mary on the continent, about ſixty miles ſouth-weſt of Seville, and forty north-weſt of Gibraltar: weſt

west longitude 6° 40′, and north latitude 36° 30′.

The island it stands on is in length about eighteen miles; the south-west end is about nine broad, but the other end where the city stands, not above two. It has a communication with the continent by means of a bridge; and with the opposite shore, forms a bay of twelve miles long, and six broad. About the middle of this bay, there are two headlands, or promontories, one on the continent, and the other on the island, which advance so near together, that the forts upon them, called the Puntal and Matagorda, command the passage; and within these forts is the harbour, which it is impossible for an enemy to enter, till he has first taken the forts.

CADIZADELITES, a sect of mahometans very like the antient stoics. They shun feasts and diversions, and affect an extraordinary gravity in all their actions; they are continually talking of God, and some of them make a jumble of christianity and mahometanism; they drink wine, even in the fast of the ramazan; they love and protect the christians; they believe that Mahomet is the Holy Ghost, practise circumcision, and justify it by the example of Jesus Christ.

CADMIA, in the natural history of the antients, the name of two distinct substances, called native cadmia, and factitious cadmia. The native cadmia was only one of the copper ores; but this is not the cadmia so much cried up by them, for its absorbent and deficcative virtues: this was the factitious cadmia, a recrement of copper, produced in the copper-works, of which there were three kinds. The finest of all was found in the very mouths of the furnaces, from whence it issued out with the flame and smoke, and was therefore called capnitis, or smoky cadmia: a great part of this was necessarily lost in the air; but the little that adhered to the mouths of the furnaces, was collected in form of a powder, or fine ashes.

The finest cadmia next to this, was that found on the roofs of the furnaces, hanging down in form of clusters of round bubbles; and therefore called the cadmia botryitis, the botryoide, or clustered cadmia, which was much more firm and heavy than the capnitis, and of a greyish or purple colour, whereof the latter was always esteemed the best.

A third kind of cadmia, was that gathered about the sides of the furnaces, as being not light or fine enough to ascend to the roof: it was called cadmia placitis, or crust-like cadmia. Of this crustated cadmia they distinguished two kinds, the one of a blackish colour on the outside, variegated with spots on the inside, called onychitis, on account of the resemblance it bore to the onyx in its veins and clouds; and the other, which was quite black throughout, they called ostracitis.

All these kinds of cadmia, now disused, were highly extolled by the antients. They tell us, that in diseases of the eyes, collyriums prepared with them, scarce ever failed of curing; nor is their efficacy in wounds and ulcers less cried up.

Among modern writers, it is not unusual to confound these substances with tutty. See the article TUTTY.

CADORIN, a province of Italy, in the territories of Venice, bounded by the bishopric of Brixen, on the north; by Friuli, on the east; by the Bellunese, on the south; and by the Trentin, on the west.

CADRITES, a sort of mahometan friars, who once a week spend great part of the night in turning round, holding each other's hands, and repeating incessantly the word *hai*, which signifies living, and is one of the attributes of God; during which, one of them plays on a flute. They never cut their hair, nor cover their heads, and always go barefooted; they have liberty to quit their convent when they please, and to marry.

CADSAND, an island on the coast of dutch Flanders, situated at the mouth of the Scheld, whereby the Dutch command the navigation of that river.

CADUCEUS, in antiquity, Mercury's rod, or sceptre, being a wand entwisted by two serpents, borne by that deity, as the ensign of his quality and office, given him according to the fable, by Apollo, for his seven-stringed harp.

Wonderful properties are ascribed to this rod by the poets, as laying men asleep, raising the dead, *&c.* It is used also as a symbol of peace. The caduceus, as found on some medals, is a common symbol, signifying good conduct, peace, and prosperity.

CADUS, in antiquity, a wine vessel of a certain capacity, containing eighty amphoræ, or firkins, each of which, according to the best accounts, held nine gallons.

CÆCILIA, in zoology, the name of a genus of serpents, the characters of which are these: the body is naked with wrinkled sides: the upper lip is prominent beyond

yond the reſt of the mouth, and has two tentacula: and there is no tail.

Of this genus, authors enumerate ſeveral ſpecies, diſtinguiſhed by the number of their rugæ, or wrinkles.

Some phyſicians have preſcribed them as ſudorifics.

CÆCUM, or COECUM, in anatomy, the blind gut, or firſt of the thick inteſtines. Of the three large inteſtines, called from their ſize, inteſtina craſſa, the firſt is the cæcum, ſituated at the right os ileum; it reſembles a bag, and has a vermiform or worm-like appendage fixed to it. It begins at the termination of the ileum, and terminates in the bottom of the bag, or ſacculus, which it forms: its length is no more than three or four fingers breadth. In the appendage opening into the ſide of the cæcum, there are ſome glands, which, together with its erect ſituation, ſeems to ſhew that ſome fluid is ſecreted there. In hens, this is double; as alſo in many other fowls. In fiſhes, there are frequently a vaſt number of them, and in ſome ſpecies not leſs than four hundred. In man, it is at the utmoſt ſingle, and is often wanting.

CÆMENT, in a general ſenſe, any glutinous ſubſtance, capable of uniting and keeping things together in cloſe coheſion. In this ſenſe, under cæment, are comprehended mortar, ſolder, glue, &c. but, ſtrictly ſpeaking, the term cæment only denotes a glutinous compoſition uſed in cæmenting broken glaſſes, china-ware, or earthen-ware.

One of the fineſt, and at the ſame time ſtrongeſt cæment for this purpoſe, is the juice of garlic ſtamped in a ſtone mortar: this, if the operation is done with care, leaves little or no mark. Another cæment is made by beating the white of an egg very clear, and mixing with it fine powdered quick lime, or iſinglaſs, powdered chalk, and a little lime may be mixed together, and diſſolved in fair water. With theſe, the glaſſes, &c. are to be cæmented, and then ſet in the ſhade to dry; a caution which ſhould always be obſerved, whichever of the above cæments are uſed.

A cæment for cracked chemical-glaſſes, that will ſtand the fire, may be thus prepared: take wheat-flower, fine powdered Venice glaſs, and pulverized chalk, of each an equal quantity; of fine brick-duſt, one half of the ſaid quantity; and a little ſcraped lint: mix them all together with the whites of eggs; then, ſpreading this mixture upon a linen-cloth, apply it to the cracks of the glaſſes, which muſt be well dried before they are uſed. Old varniſh is another cæment that will anſwer the ſame purpoſe.

CÆMENT, among builders, a ſtrong ſort of mortar, uſed to bind bricks or ſtones together for ſome kind of mouldings; or in cæmenting a block of bricks for the carving of capitals, ſcrolls, or the like. There are two ſorts, 1. Hot cæment, which is the moſt common, made of reſin, bees-wax, brickduſt, and chalk, boiled together. The bricks to be cæmented with this kind, muſt be made hot with the fire, and rubbed to and fro after the cæment is ſpread, in the ſame manner as joiners do when they glue two boards together. 2. Cold cæment, made of Cheſhire-cheeſe, milk, quick lime, and whites of eggs. This cæment is leſs uſed than the former, and is accounted a ſecret known but to few bricklayers.

CÆMENT, among engravers, jewellers, &c. a compoſition of fine brick-duſt well ſifted, reſin and bees-wax, in uſe among theſe artificers to keep the metals to be engraven or wrought on firm to the block; and alſo to fill up what is to be cheſſeled.

CÆMENT, in chemiſtry, a kind of menſtruum compounded of ſalts, ſulphurs, and brick reduced to dry powders, and ſtrewed betwixt plates of metal, in order to raiſe their colour, or ſeparate one metal from another. See CÆMENTATION.

Cæments are prepared of ſuch ſalts and other ingredients, as by their acrimony corrode and ſeparate the ſilver, copper, or other metals from the body of the gold.

There are various kinds of cæments, but thoſe called the common and royal, are moſtly uſed by refiners. The firſt is made of brick-duſt, nitre, and verdegris; the ſecond, of ſal gemmæ and armoniac, each one part, two parts of common ſalt, and four of bole; the whole reduced into a paſte, with urine.

In compounding cæments, it muſt be obſerved to uſe a weak ſort in refining gold of a little value; but when the gold has but a ſmall mixture of other metalline particles in it, then the moſt efficacious cæments are to be adminiſtered, by which means much time and expence will be ſaved.

Cæments uſed in raiſing the colour of gold are called gradatory cæments.

In all theſe, copper is an ingredient.

CÆMENT POTS, or thoſe uſed in the cæmen-

mentation of metals, are made of fine potter's clay, and that either pure, or mixed with ſand in different proportions.

CÆMENTATION, in a general ſenſe, the corroding of metals in a dry form, by means of the fumes of acid ſalts. See the article CÆMENT.

It is performed in the following manner. After the copper has been ſeparated as much as poſſible by copelling, a ſtratum of cæment of about half an inch in thickneſs, is ſpread in the bottom of the cæment-pot; over this are laid thin plates of gold, then another ſtratum of cæment, and ſo on alternately till the pot be filled within half an inch of the brim. This being done, the pot is covered up, and encompaſſed with fire which ſhould be made gradually fiercer and fiercer; and in ſixteen or twenty hours after they have been red hot, entirely removed, that every thing may cool by degrees. Then the pots are to be opened, the cæment taken out, and if it is grown too hard, to be ſoftened by a ſprinkling of hot water. The plates of gold muſt be waſhed in hot water, and the water renewed, till it be free from all ſaline taſte; for the ſalts, together with the metal they have corroded, will be contained in the plates of gold. The gold muſt be tried with the touch-ſtone, or ſome more certain method, to know if it has the degree of fineneſs required. And if it is not pure enough, it muſt be cæmented a ſecond time, and if neceſſary, with a ſtronger cæment.

For the method of making ſteel by cæmentation, ſee the article STEEL.

CAEN, the capital of a county of the ſame name, in Normandy, ſituated on the river Orne, about ſeventy-five miles weſt of Rouen, and thirty ſouth-weſt of Havre-de-Grace; weſt longitude 25′, north latitude 49° 20′.

It has an univerſity, firſt founded by king Henry VI. of England, in 1431.

CAERFILLY, a town of Glamorganſhire, about five miles north of Landaff; weſt long. 3° 15′, and north latitude 51° 35′.

CÆRITES, or CÆRITUM TABULÆ, in roman antiquity, tables or regiſters in which the names of the Cærites were regiſtered. The people of Cære were accounted citizens of Rome, but had no privilege of voting: hence when a roman citizen was degraded, if a ſenator, he was expelled the ſenate; if a knight, he loſt the public horſe; and if a plebeian, his name was inſerted in the regiſter of the Cærites; that is, he was ſubject to all taxes, but incapable of voting or enjoying any public office.

CAERLEON, a market-town of Monmouthſhire, ſituated on the river Uſke, about ſixteen miles ſouth-weſt of Monmouth: weſt longitude 3°, north latitude 51° 40′.

CAERMARTHEN, the capital of Caermarthenſhire in Wales, ſituated upon the river Towy, about fifteen miles from the ſea.

CAERNARVAN, the chief town of Caernarvanſhire, in Wales, ſituated upon the river Menay.

CAERWIS, a market-town in Flintſhire, in north Wales, about five miles eaſt of St. Aſaph, and four weſt of Flint: weſt long. 3° 25′, north latit. 53° 20.

CÆSALPINA, in botany, a genus of the pentandria-monogynia claſs of plants, having no cup: the corolla is of the ringent kind, formed of one petal; the fruit is an oblong, accuminated legumen, containing one cell; the ſeeds are numerous and oval.

CÆSAR, in roman antiquity, a title borne by all the emperors, from Julius Cæſar, to the deſtruction of the empire. It was alſo uſed as a title of diſtinction, for the intended or preſumptive heir of the empire, as king of the Romans is now uſed for that of the german empire.

This title took its riſe from the ſurname, of the firſt emperor, C. Julius Cæſar, which, by a decree of the ſenate, all the ſucceeding emperors were to bear. Under his ſucceſſor, the appellation of Auguſtus being appropriated to the emperors, in compliment to that prince, the title Cæſar was given to the ſecond perſon in the empire, tho' ſtill it continued to be given to the firſt; and hence the difference betwixt Cæſar uſed ſimply, and Cæſar with the addition of Imperator Auguſtus.

The dignity of Cæſar remained the ſecond of the empire, till Alexius Comnenus having elected Nicephorus Meliſſenus Cæſar, by contract; and it being neceſſary to confer ſome higher dignity on his own brother Iſaacius, he created him Sebaſtocrator, with the precedency over Meliſſenus; ordering, that in all acclamations, &c. Iſaacius Sebaſtocrator ſhould be named the ſecond, and Meliſſenus Cæſar, the third.

CÆSARIAN SECTION, in midwifery, a chirurgical operation, by which the fœtus is delivered from the womb of its mother, when it cannot be done in the natural way.

There are chiefly three different cafes, in which this operation is practicable: the firft is, when the mother is dead, either in the birth, or by fome accident, while the fœtus is reafonably fuppofed to be yet furviving in the womb: the fecond is, when the mother is living, and the fœtus dead, but incapable of being extracted or expelled by the natural paffages: the third and laft is, when the mother and fœtus are both living, but the latter is incapable of being brought into the world through the natural paffages. In the firft cafe, this operation fhould be performed, not only as foon as poffible, but even before the circulation in the mother is ftopped, becaufe the fœtus cannot long furvive: then the abdomen muft be laid open, by a crucial incifion, as in common diffections, or by making a longitudinal incifion on one fide; and if the fœtus fhould have fallen into the cavity of the abdomen, from a rupture of the uterus, *&c.* it fhould be taken out immediately: but if it remains concealed in the womb, that body fhould be cautioufly opened, and the fœtus extracted.

In the fecond cafe, the furgeon muft make a longitudinal incifion on the outfide of the rectus mufcle, between the navel and the angle of the os ilium, and thereby extract the fœtus. If the fœtus is contained in the fallopian tube, or in the ovary, thofe parts are to be opened, and the fœtus, with its placenta, then removed: but if the fœtus is concealed in the uterus, this is alfo to be opened, by a longitudinal incifion, fufficient to give a paffage to the fœtus, and its appendages.

In the third and laft cafe, when the birth is prevented by a callofity of the vagina, or fomething amifs in the mouth of the uterus, a divifion and dilatation of thefe parts, is preferable to the cæfarian fection, as lefs dangerous; and the fame may be faid when the vagina is obftructed by the hymen, or fome other preternatural membrane: but when the callofity of the vagina is fo large and hard, as to render the birth that way impracticable, if it was to be divided, there is no other means left but the cæfarian fection. If a rupture of the uterus fhould be made in the agonies of labour, fo as to let out the fœtus into the cavity of the abdomen, in this cafe it will be neceffary to make an incifion in that part made moft prominent by the fœtus, which fhould be extracted, as before.

CÆSARIANS, *cæfarienfes*, in roman antiquity, were officers or minifters of the roman emperors: they kept the account of the revenues of the emperors, and took poffeffion, in their name, of fuch things as devolved, or were confifcated to them.

CÆSTUS, in antiquity, a large gantlet made of raw hide, which the wreftlers made ufe of when they fought at the public games.

This was a kind of leathern ftrap, ftrengthened with lead, or plates of iron, which encompaffed the hand, the wrift, and a part of the arm, as well to defend thefe parts, as to enforce their blows.

CÆSTUS, or CÆSTUM, was alfo a kind of girdle, made of wool, which the hufband untied for his fpoufe the firft day of marriage, before they went to bed.

This relates to Venus's girdle, which Juno borrowed of her, to entice Jupiter to love her. See the article CESTUS.

CÆSURA, in the antient poetry, is when, in the fcanning of a verfe, a word is divided fo, as one part feems cut off, and goes to a different foot from the reft; as,

Menti|ri no|li, nun|quam men|dacia| profunt.

where the fyllables *ri*, *li*, *quam*, and *men*, are cæfuras.

Cæfura more properly denotes a certain and agreeable divifion of the words between the feet of a verfe, whereby the laft fyllable of a word becomes the firft of a foot; as in

Arma virumque cano, trojæ qui primus ab oris.

where the fyllables *no* and *jæ* are cæfuras.

CÆSURA, or CÆSURE, in the modern poetry, denotes a reft, or paufe, towards the middle of an alexandrine verfe, by which the voice and pronunciation are aided, and the verfe, as it were, divided into two hemiftichs.

In alexandrine verfes of twelve or thirteen fyllables, the cæfure muft always be on the fixth; in verfes of ten, on the fourth; and in thofe of twelve on the fixth: verfes of eight fyllables, muft not have any cæfure.

CÆTERIS PARIBUS, a latin term, often ufed by mathematical and phyfical writers, the words literally fignifying *the reft, or the other things, being alike, or equal.* Thus we fay, the heavier the bullet, *cæteris paribus*, the greater the range, *i. e.* by how much the bullet is heavier; if the length and diameter of the piece, and the quantity and ftrength of the powder

powder be the ſame, by ſo much will the utmoſt range or diſtance of a piece of ordnance be greater.

Thus alſo, in a phyſical way, we ſay, the velocity and quantity of the blood circulating, in a given time, through any ſection of an artery, will, *cæteris paribus*, be according to its diameter, and nearneſs to, or diſtance from the heart.

CAFFA, or KAFFA, a city and port-town of Crim Tartary, ſituated on the ſouth-eaſt part of that peninſula; eaſt longitude 37°, north latitude 44° 55′.

It is the moſt conſiderable town in the country, and gives name to the ſtraits of Caffa, which run from the Euxine, or Black-ſea, to the Palus Meotis, or ſea of Azoph.

CAFFILA, a company of merchants or travellers, who join together in order to go with more ſecurity through the dominions of the grand mogul, and through other countries on the continent of the Eaſt-Indies.

The caffila differs from a caravan, at leaſt in Perſia; for the caffila belongs properly to ſome ſovereign, or to ſome powerful company of Europe; whereas a caravan is a company of particular merchants, each trading upon his own account. The Engliſh and Dutch have each of them their caffila at Gambron.

CAFFILA on the coaſt of Guzerat or Cambaya, ſignifies a ſmall fleet of merchant-ſhips.

CAFFRARIA, the country of the Caffers, or Hottentots, in the moſt ſoutherly part of Africa, lying in the form of a creſcent about the inland country of Monomotapa, between 35° ſouth latitude and the tropic of Capricorn; and bounded on the eaſt, ſouth, and weſt, by the Indian and Atlantic oceans.

Moſt of the ſea-coaſts of this country is ſubject to the Dutch, who have built a fort near the moſt ſouthern promontory, called the Cape of Good Hope.

CAG, or KEG, of ſturgeon, *&c.* a barrel, or veſſel, that contains from four to five gallons.

CAGE, *cavea*, an incloſure made of wire, wicker, or the like, interwoven lattice-wiſe, for the confinement of birds, or wild beaſts.

The cage, in the roman amphitheatres, was a place wherein ſavage animals were confined. It was incloſed with iron rails, and open a-top, ſo as to be ſeen to the bottom by the ſpectators.

CAGLI, a town of the province of Urbino, in the pope's territories, about twenty-five miles ſouth of the city of Urbino: eaſt long. 14°, north latit. 43° 15′.

CAGLIARI, the capital of the iſland of Sardinia, ſituated on a bay of the ſea in the ſouthern part of that iſland; eaſt longitude 9° 12′, north lat. 39°.

CAHORS, the capital of the territory of Querci, in the province of Guienne, in France, ſituated about forty-five miles north of Tholouſe; eaſt longitude 1°, north latitude 44° 25′.

It is the ſee of a biſhop, and has an univerſity.

CAJANABURG, the capital of the province of Cajania, or eaſt Bothnia, in Sweden, ſituated on the north-eaſt part of the lake Cajania, about three hundred miles north-eaſt of Abo; eaſt longit. 27°, north latitude 63° 50′.

CAJAZZO, a town of the province of Lavoro, in the kingdom of Naples, ſituated about ſixteen miles north-eaſt of the city of Naples; eaſt longitude 15°, north latitude 41° 15′.

CAIFUM, a city of China, ſituated in the province of Honan, on the river Crocceus, 350 miles north-weſt of Nanking; eaſt longitude 113° 30′, north latitude 35°.

CAIMACAN, or CAIMACAM, in the turkiſh affairs, a dignity in the Ottoman empire, anſwering to lieutenant, or rather deputy, among us.

There are uſually two caimacans, one reſiding at Conſtantinople, as governor thereof; the other attending the grand vizir, in quality of his lieutenant, ſecetary of ſtate, and firſt miniſter of his council; and gives audience to embaſſadors. Sometimes there is a third caimacan, who attends the ſultan; whom he acquaints with any public diſturbances, and receives his orders concerning them.

CAIMAN, or CAIMAN-ISLANDS, certain american iſlands lying ſouth of Cuba, and north-weſt of Jamaica, between 81° and 86° of weſt longitude, and in 21° of north latitude.

They are moſt remarkable on account of the fiſhery of tortoiſe, which the people of Jamaica catch here, and carry home alive, keeping them in pens for food, and killing them as they want them.

CAINIANS, or CAINITES, in church-hiſtory, chriſtian heretics, that ſprung up about the year 130, and took their name from Cain, whom they looked upon as their head and father: they ſaid that he was formed by a celeſtial and almighty power,

power, and that Abel was made but by a weak one.

This ſect adopted all that was impure in the hereſy of the gnoſtics, and other heretics of thoſe times: they acknowledged a power ſuperior to that of the creator; the former they called wiſdom, the latter, inferior virtue: they had a particular veneration for Korah, Abiram, Eſau, Lot, the ſodomites, and eſpecially Judas, becauſe his treachery occaſioned the death of Jeſus Chriſt: they even made uſe of a goſpel, which bore that falſe apoſtle's name.

CAIRO, or GRAND CAIRO, the capital of Egypt, ſituated in a plain at the foot of a mountain, about two miles eaſt of the Nile, and 100 miles ſouth of the mouth of that river: eaſt longitude 32°, north latitude 30°.

The town is ten miles in circumference, and full of inhabitants. The caſtle ſtands on the ſummit of a hill, at the ſouth end of the town, and is three miles round. The britiſh and other european ſtates have their conſuls and factors here, for the protection of trade.

CAIROAN, a town of the kingdom of Tunis, in Africa, ſituated on the river Magrida, about eighty miles ſouth of Tunis; eaſt long. 9°, north lat. 36°.

CAISSON, in the military art, a wooden cheſt, into which ſeveral bombs are put, and ſometimes only filled with gunpowder: this is buried under ſome work, whereof the enemy intends to poſſeſs themſelves, and when they are maſters of it, is fired, in order to blow them up.

CAISSON is alſo uſed for a wooden frame, or cheſt, uſed in laying the foundations of the piers of a bridge.

CAITHNESS. See the article CATHNESS.

CAKE, a finer ſort of bread, denominated from its flat round figure. See the article BREAD.

We meet with divers compoſitions under the name of cakes; as ſeed-cakes, made of flour, butter, cream, ſugar, coriander and caraway ſeeds, mace, and other ſpices and perfumes, baked in the oven; plumb-cake, made much after the ſame manner, only with fewer ſeeds, and the addition of currants; pan-cakes, made of a mixture of flour, eggs, &c. fried; cheeſe-cakes, made of cream, eggs, and flour, with, or without cheeſe-curd, butter, almonds, &c. oat-cakes, made of fine oaten-flour, mixed with yeſt, rolled thin, and laid on an iron or ſtone to bake over a ſlow fire; ſugar-cakes, made of fine ſugar beaten and ſearced with the fineſt flour, adding butter, roſe-water, and ſpices: roſe-cakes, placentæ roſaceæ, are leaves of roſes dried and preſſed into a maſs, ſold in the ſhops for epithems.

CALABASH, in commerce, a light kind of veſſel made of the ſhell of a gourd, emptied and dried, ſerving for a caſe to put divers kinds of goods in; as pitch, roſin, and the like. The Indians alſo, both of the north and ſouth ſea, put the pearls they have fiſhed in calabaſhes; and the negroes, on the coaſt of Africa, do the ſame by their gold duſt. The ſmaller calabaſhes are alſo frequently uſed by theſe people as a meaſure, by which they ſell theſe precious commodities to the Europeans. The ſame veſſels likewiſe ſerve for putting in liquors, and do the office of the cups as well as of bottles for ſoldiers, pilgrims, &c.

CALABRIA, the moſt ſoutherly part of the kingdom of Naples, ſituated over-againſt Sicily.

There are two provinces of Calabria, called the hither and farther Calabria, with reſpect to the city of Naples; Coſenza being the capital of the former, and Rheggio of the latter.

CALADE, in the manege, the deſcent or ſloping declivity of a riſing manege ground, being a ſmall eminence upon which we ride down a horſe ſeveral times, putting him to a ſhort gallop, with his forehams in the air, to make him learn to ply or bend his haunches, and form his ſtop upon the aids of the calves of the legs, the ſtay of the bridle, and the caveſon, ſeaſonably given.

CALAHORRA, a city of old Caſtile, in Spain, ſituated on the river Ebro, near the confines of Navarre, about ſixty miles north-weſt of Saragoſſa; weſt longitude 2°, north lat. 42° 20′.

CALAIS, a port-town of Picardy, in France, ſituated on the engliſh channel, about twenty-two miles ſouth-eaſt of Dover; eaſt long. 2°, north latit. 51°.

CALAMANCO, a ſort of woolen ſtuff manufactured in England and in Brabant. It has a fine gloſs, and is chequered in the warp, whence the checks appear only on the right ſide. Some calamancoes are quite plain, others have broad ſtripes adorned with flowers; ſome with plain broad ſtripes, ſome with narrow ſtripes, and others watered.

CALAMINARIS, or LAPIS CALAMINARIS, in natural hiſtory, a kind of foſſil, the general ore of zinc, a ſpun-

gy ſubſtance, and a lax and cavernous texture, yet conſiderably heavy.

It is of no determinate ſhape or ſize, but is found in maſſes of a very various and irregular figure. It is, when moſt pure and perfect, of a pale browniſh grey. It is found in Germany, Saxony, Bohemia, and England.

The great uſe of the lapis calaminaris is the mixing with copper, for the making of braſs: this change it makes in copper, is wholly in virtue of the zinc it contains; which zinc, when ſeparated, will do the ſame. See BRASS and ZINC.

Lapis calaminaris is much uſed in medicine externally, not only in collyriums for the eyes, but as a deſiccative for weeping ulcers, and for preventing excoriations in children. It has indeed been made more famous than it deſerves in one particular inſtance, that of its virtue againſt burns: it is on this account made the principal ingredient in a cerate, called, from its pretended inventor, Turner's cerate.

Calamine ſhould be choſen for medicinal uſes, the heavieſt, ſofteſt, and moſt friable that can be got, and ſuch as is the leaſt debaſed by other ſubſtances.

CALAMINE, CALAMINARIS. See the laſt article.

CALAMINT, in botany, a ſpecies of meliſſa. See the article MELISSA.

Calamint is eſteemed a good aperient and diaphoretic.

CALAMUS, in botany, a genus of the hexandria-monogynia claſs of plants, the calyx of which is a permanent perianthium, conſiſting of ſix leaves; there is no corolla: the fruit is membranaceous and globoſe, containing one cell, in which is a globoſe fleſhy ſeed.

CALAMUS AROMATICUS, in the materia medica, the ſtalk of a ſpecies of acorus, met with in pieces of ten or twelve inches long, and from the thickneſs of a gooſe quill, down to that of a wheaten ſtraw. It is full of knots, or joints, in the manner of our common reeds, and is hollow, of a pale colour, very light, and eaſily broken: its cavity is filled up with a ſoft and ſpungy medullary ſubſtance, of a white colour, very light, and reſembling a congeries of cobwebs.

The whole is of an agreeable aromatic ſmell, when freſh broken, and is evidently the drug which the antients meant by the name of calamus aromaticus. The Indians uſe it in their ſauces, and eſteem it cordial and ſtomachic: it is ſaid to be a diuretic and a promoter of the menſes; the fume of it, burnt with turpentine, is recommended for diſeaſes of the breaſt: the indian women, according to ſome, uſe it as an uterine and cephalic: with us, it is only known as an ingredient in the theriaca; and is ſeldom to be met with in ſhops, the common acorus being generally uſed in its place; whence that root is called by the name of calamus aromaticus, but very improperly, for which reaſon, the true plant is diſtinguiſhed by the name of calamus aromaticus verus. See the article ACORUS.

CALAMUS-SCRIPTORIUS, in antiquity, a reed, or ruſh, to write with.

The antients made uſe of ſtyles to write on tables covered with wax; and of reed, or ruſh, to write on parchment, or egyptian paper.

CALAMUS-SCRIPTORIUS, in anatomy, a dilatation of the fourth ventricle of the brain, ſo called from its figure, which reſembles that of a gooſe-quill. See the article BRAIN.

CALASH, or CALESH, a light and very low kind of chariot, uſed chiefly for taking the air in parks and gardens.

CALASIRIS, in antiquity, a linen tunic fringed at the bottom, and worn by the Egyptians under a white woolen garment; but this laſt they were obliged to pull off when they entered the temples, being only allowed to appear then in linen habits.

CALATAJUD, a city of Arragon, in Spain, ſituated on the river Xalo, about fifty miles weſt of Saragoſſa; weſt longitude 2° 5′, north latitude 41° 15′.

CALATHUS, in antiquity, a baſket, hamper, or pannier of oſiers, reeds, or twigs, for women to put their work in, or to gather flowers in.

Calathus was alſo a veſſel, or pan, for cheeſe-curds and milk; alſo the name of a cup for wine, uſed in ſacrifices.

CALATOR, in antiquity, was a public ſervant, and a freeman, ſuch as a bailiff or crier, a ſumner to ſummon courts, ſynods, and other public aſſemblies.

CALATRAVA, a city of new Caſtile, in Spain, ſituated on the river Guadiana, forty-five miles ſouth of Toledo; weſt long. 4° 20′, north latit. 39°.

Knights of CALATRAVA, a military order in Spain, inſtituted under Sancho III. king of Caſtile, upon the following occaſion. When that prince took the ſtrong fort of Calatrava from the moors of Andaluſia, he gave it to the templars, who, wanting courage to defend it, returned it him again. Then Don Reymond, of the order of the Ciſtercians, accompanied with

with ſeveral perſons of quality, made an offer to defend the place, which the king thereupon delivered up to them, and inſtituted that order. It increaſed ſo much under the reign of Alphonſus, that the knights deſired they might have a grand maſter, which was granted. Ferdinand and Iſabella afterwards, with the conſent of pope Innocent VIII. reunited the grand maſterſhip of Calatrava to the ſpaniſh crown; ſo that the kings of Spain are now become perpetual adminiſtrators thereof.

The knights of Calatrava bear a croſs gules, fleurdeliſed with green, &c. their rule and habit was originally that of the Ciſtercians.

CALCADA, or St. DOMINGO DE CALCADA, a city of old Caſtile, in Spain, forty-eight miles eaſt of Burgos; weſt longitude 3°, north latitude 42° 36′.

CALCANEUM, or OS CALCIS, in anatomy, the bone lying under the aſtragalus, to which, and the os cuboides, it is articulated. Its apophyſis behind, ſerves to prevent our falling backward, and on its poſterior ſurface is inſerted the tendo achillis; in its interior ſide there is an excavation, intended to give ſafe paſſage to the veſſels running to the metatarſus and toes.

CALCANTHUM, or CHALCANTHUM. See the article CHALCANTHA.

CALCAR, in anatomy, the ſame with *calcaneum*. See the article CALCANEUM.

CALCAR, in glaſs-making, a ſort of oven, or reverberatory furnace, in which being well-heated, the cryſtal frit, or bollito, is made.

This furnace is made in the faſhion of an oven, ten feet long, ſeven broad in the wideſt part, and two feet deep. On one ſide of it is a trench ſix inches ſquare, the upper part of which is level with the calcar, and ſeparated only from it at the mouth, by bricks nine inches wide. Into this trench they put ſea coal, the flame of which is carried into every part of the furnace, and is reverberated from the roof upon the frit, over the ſurface of which, the ſmoak flies very black, and goes out at the mouth of the calcar; the coals burn on iron grates, and the aſhes fall through. See the article GLASS.

CALCAR, in geography, a town of the dutchy of Cleves, and circle of Weſtphalia, in Germany; eaſt longitude 5° 50′, and north latitude 51° 45′.

CALCARIOUS, in general, denotes ſomething belonging to, or partaking of the nature of calx. See the article CALX.

CALCEDON, or CHALCEDON, in geography, a city of Bythinia, in the leſſer Aſia, once the capital of the country, ſtood on the aſian ſide of the Boſphorus, or ſtrait of Conſtantinople, oppoſite to that city, and near the place where the ſeraglio or palace of Scutari now ſtands. It is now dwindled into a village, and is ſituated in eaſt longitude 29°, north latitude 41° 30′.

CALCEDON, among jewellers, denotes a flaw or foul vein, like chalcedony, found in ſome precious ſtones.

CALCEDONY, or CHALCEDONY, in the hiſtory of precious ſtones. See the article CHALCEDONY.

CALCINATION, in chemiſtry, ſuch a management of bodies by fire, as renders them reducible to a calx, or white powder: for which reaſon it is termed chemical pulverization.

With regard to its object, calcination reſpects not ſo much the diſſipation of the volatile parts, although that be an effect it very often produces, as the comminution, or, at leaſt, the ſoftening of a body. And as ſolid bodies are reducible to a powder by many different operations, hence we find, in chemical writers, the terms of calcination by a dry way, calcination by moiſture, and philoſophical calcination. The firſt method, however, alone, is, properly ſpeaking, called calcination.

Calcination includes alſo the ſolution of metalline bodies by corroſive ſubſtances. Calcination, according to Dr. Freind, who attempts to ſolve its phænomena from certain lemmata proved by geometrical writers, and particularly by Sir Iſaac Newton, and Dr. Keil, is the effect of liquefaction continued, wherein the more volatile corpuſcles fly off, and the particles of the fire enter the body in ſuch plenty, and immediately mix themſelves therewith, that it can no longer appear in the form of a fluid; and hence, ſays he, the weight of the calcined body is increaſed; and vitrification is no more than a degree of calcination: as common glaſs is made by a continued fuſion, which throws off the lighter and more droſſy particles. Hence the gravity of the glaſs exceeds that of the materials of which it is compoſed.

CALCIS OS, in anatomy. See the article CALCINEUM.

CALCULARY, in a pear, a congeries of ſtony

ftony concretions, fometimes found in the fubftance of that fruit.

The calculary is a diftemperature to which fome kinds of pear are very liable.

CALCULATION, the act of computing feveral fums, by adding, fubtracting, multiplying, or dividing. See the articles ARITHMETIC, ADDITION, &c.

Several people of Africa, America, and Afia calculate by means of cords, upon which they tie knots.

An error in calculation is never protected or fecured by any fentence, decree, &c. for in ftating accounts it is always underftood that errors of calculation are excepted.

CALCULATION is more particularly ufed to fignify the computations in aftronomy and geometry, for making tables of logarithms, ephemerides, finding the time of eclipfes, &c.

CALCULATION *of clock and watch work*. See CLOCK and WATCH.

CALCULUS, in natural hiftory, properly denotes a little ftone or pebble. See the article PEBBLES.

CALCULUS, or CALCULUS HUMANUS, in medicine, the ftone in the bladder or kidneys. See the article STONE.

CALCULUS alfo denotes a method of computation, fo called from the calculi, or counters, antiently ufed for this purpofe. Hence,

CALCULUS SPECIALIS, or LITERALIS, is the fame with algebra. See ALGEBRA.

CALCULUS DIFFERENTIALIS is a method of differencing quantities, that is, of finding an infinitely fmall quantity, which being taken an infinite number of times, fhall be equal to a given quantity. An infinitely fmall quantity, or infinitefimal is a portion of a quantity lefs than any affignable one; it is therefore accounted as nothing: and hence two quantities only differing by an infinitefimal, are reputed equal. The word infinitefimal is merely refpective, and implies a relation to another quantity: for example, in aftronomy, the diameter of the earth is an infinitefimal in refpect of the diftance of the fixed ftars. It muft not, then, be confounded with any real ens, or being.

Infinitefimals are likewife called differentials, or differential quantities, when they are confidered as the differences of two quantities. Sir Ifaac Newton calls them moments, confidering them as momentary increments of quantities: for inftance, of a line generated by the flux of a point, of a furface by the flux of a line, or of a folid by the flux of a furface. The calculus differentialis, therefore, and the doctrine of fluxions are the fame thing, under different names; the latter given by Sir Ifaac Newton, and the former by Mr. Leibnitz, who difputes with Sir Ifaac the honour of the difcovery. There is, however, one difference between them, which confifts in the manner of expreffing the differentials of quantities: Mr. Leibnitz, and moft foreigners, exprefs them by the fame letters as variable ones, prefixing only the letter d. Thus the differential of x is called dx, and the differential of y, dy. And dx is a pofitive quantity if x continually increafe, and a negative quantity if x decreafe. We, on the other hand, following Sir Ifaac Newton, inftead of dx, write $\dot{x}$ (with a dot over it), and inftead of dy, $\dot{y}$. But foreigners reckon this method not fo commodious as the former, becaufe if differentials were to be differenced again, the dots would occafion great confufion; not to mention, that printers are more apt to overlook a point than a letter.

Now as permanent quantities are always expreffed by the firft letters of the alphabet, $da = 0$, $db = 0$, $dc = 0$; wherefore $d(x+y-a) = dx+dy$, and $d(x-y+a) = dx - dy$. The difference of quantities, then is eafily performed by the addition or fubtraction of their compounds.

To difference two quantities that multiply each other, as xy, multiply the differential of one factor into the other factor, and the fum of the two factors, is the differential required. Thus the differentials of xy will be $xdy+ydx$, that is $d(xy) = xdy+ydx$. Again, if there be three quantities mutually multiplying each other, the factum of the two muft be multiplied into the differential of the third; thus fuppofe vxy: let $vx = t$, and vxy will be $= ty$; confequently $d(vxy) = tdy+ydt$: but $dt = vdx+xdv$. If thefe values therefore are fubftituted in the antecedent differential $tdy+ydt$, it follows that $d(vxy) = vxdy+vydx+xydv$. In the fame manner muft we proceed when the quantities to be differenced are more than three. But if, while one variable quantity increafes, the other, y, decreafes, it is evident that $ydx-xdy$ will be the differential of xy.

The rule for differencing quantities that mutually divide each other, is firft to multiply the differential of the divifor into

to the dividend, and on the contrary, the differential of the dividend into the divifor. 2. To fubtract the firft product from the laft. 3. To divide the remainder by the fquare of the divifor, and the quotient is the differential of the quantities mutually dividing each other. For inftance, let $xy : vz$ be to be differenced: fuppofe $xy = t$, and $vz = w$; then $xy : vz$ will be equal to $t : w$. But $d(t : w) = (wdt - tdw) : w^2$; and $dt = xdy + ydx$, $dw = vdz + zdv$. Wherefore $d(t : w) = d(xy : vz) = (vzxdy + vzydx - xyvdz - xyzdv) : v^2z^2$. For a farther account of the doctrine of differentials, fee the article FLUXIONS.

CALCULUS EXPONENTIALIS, among mathematicians, a method of differencing exponential quantities, and fumming up the differentials of exponential quantities. By an exponential quantity is meant a power, the exponent of which is variable, as x^x, a^x. In order to difference an exponential quantity, nothing elfe is required than to reduce the exponential quantities to logarithmic ones, upon which the differencing is managed as in logarithmic ones. For inftance, fuppofe the differential of the exponential quantity x^y were required,

Let $x^y = z$

then will $y\,lx = lz$

$lx\,dy + y\,dx : x = dz : z$

$zlx\,dy + zy\,dx : x = dz$

That is $x^y lx\,dy + yx^{y-1}dx = dz$. If the exponential quantity to be differenced be of the fecond degree, as v^{x^y}, fuppofe as before $v^{x^y} = z$

then will $x^y\,lv = lz$

$(x^y lxdy + yx^{y-1}dx)lv + x^y dv : v = dz : z$

$z(x^y lxdy + yx^{y-1}dx)lv + zx^y dv : v = dz$

that is,

$v^{x^y}(x^y lxdy + yx^{y-1}dx)lv + v^{x^y}v^{-1}x^y dv = dz$

or,

$v^{x^y}x^y lxlv\,dy + v^{x^y}yx^{y-1}lv\,dx + v^{x^y}v^{-1}x^y dv = dz$

By the fame method may be found the differential of an exponential quantity of any power. This calculus was invented by Mr. John Bernoulli, and is ufed in inveftigating the properties of exponential curves. See *Exponential* CURVE.

CALCULUS INTEGRALIS, or SUMMATORIUS, is a method of fumming up differential quanties; that is, from a differential quantity given, to find the quantity from whofe differencing the given differential refults.

It is the inverfe of the calculus differentialis; whence the Englifh, who ufually call the differential method fluxions, give this calculus, which afcends from the fluxions to the flowing quantities, or, as Wolfius and other foreigners exprefs it, from the differences to the fums, the name of the inverfe method of fluxions. See the articles FLUENT and FLUXION.

Let s be the fign of the fum, or integral quantity, fo that $s\,ydx$ may denote the integral of the differential ydx. To integrate or fum up a differential quantity, 1. It is demonftrated that $s\,dx = x$. 2°. $s(dx \mp dy) = x \mp y$. 3°. $s(xdy + ydx) = xy$. 4°. $s\,mx^{m-1}dx = x^m$. 5°. $s\,(n : m)\,x^{(n-m):m}dx = x^{n:m}$. 6°. $s\,(ydx - xdy) : y^2 = x : y$. Of thefe the fourth and fifth cafes occur moft frequently, in which the differential quantity is integrated, if a variable unity is added to the exponent, and the fum divided by the new exponent, multiplied into the differential of the root, as in the fourth cafe by $(m - 1 + 1)\,dx$, that is, by $m\,dx$.

If the differential quantity to be integrated, do not come under any of thefe formulas, it muft either be reduced to an integrable finite, or an infinite feries each of whofe terms may be fummed.

This calculus is applied to geometry, in the quadrature and rectification of curves, in cubing folids and meafuring their furfaces, in the inverfe method of tangents, and in the doctrine of logarithms.

It may be remarked, that as in the analyfis of finites, any quantity may be raifed to any given power; but, *vice verfa*, the root cannot be extracted out of any number required: fo in the analyfis of infinites, any variable or flowing quantity may be differenced; but, *vice verfa*, any differential cannot be integrated. And as in the analyfis of finites, we are not yet arrived at a method of extracting roots of all equations, fo neither has the integral calculus arrived at perfection: and as in the former we are obliged to have recourfe to approximation, fo in the latter

latter we have recourſe to infinite ſeries, when we cannot attain to a perfect integration. See the article SERIES.

CALDARIUM, in the antient baths, a certain vault, or room, made ſo as to collect the vapours, and produce ſweating: whence it ſignifies a hot-houſe, bagnio, ſtove, or ſweating-room.

CALEFACTION, the production of heat in a body from the action of fire, or that impulſe impreſſed by a hot body upon other bodies about it. This word is uſed in pharmacy, by way of diſtinction from coction, which implies boiling; whereas calefaction is only heating a thing.

CALENBURG-CASTLE, the capital of a dutchy of the ſame name, in lower Saxony, in Germany, ſituated upon the river Leine, about fifteen miles ſouth of Hanover: eaſt longit. 9° 40′, and north lat. 52° 20′.

CALENDAR, *calendarium*, a diſtribution of time, accommodated to the various uſes of life, but more eſpecially ſuch as regard civil and eccleſiaſtical polity; in which ſenſe it differs nothing from the modern almanacs. See ALMANAC.

The firſt calender was made by Romulus, who divided the year into ten months only, beginning on the firſt day of March, and containing 304 days, in which time he imagined the ſun performed his courſe through all the ſeaſons.

This calendar was reformed by Numa Pompilius, who added two months more, *viz.* January and February, placing them before March: his year began on the firſt of January, and conſiſted of 355 days. This was afterwards improved by Julius Cæſar, and was by him called the julian account, which reduced the year to 365 days, 6 hours; and was retained in moſt proteſtant countries, and in our nation till the year 1752. This year is diſpoſed into quadriennial periods, whereof the three firſt years, which were called commons, conſiſted of 365 days, and the fourth biſſextile, of 366. See the article BISSEXTILE.

The julian account was afterwards corrected by pope Gregory XIII. which on that account obtained the name of the gregorian calendar, or new ſtile, the julian being called the old ſtile: and tho' the gregorian calendar be preferable to the julian, yet it is not without its defects: perhaps, as Tycho Brahe and Caſſini imagine, it is impoſſible ever to bring the year to a perfect juſtneſs. For an account of the difference of theſe computations, ſee the article BISSEXTILE.

Julian chriſtian CALENDAR, that wherein the days of the week are determined by the letters A, B, C, D, E, F, G, by means of the ſolar cycle; and the new and full moons, eſpecially the paſchal full moon, with the feaſt of eaſter, and the other moveable feaſts depending thereon, by means of golden numbers rightly diſpoſed through the julian year. See the articles CYCLE, DOMINICAL LETTER, and GOLDEN NUMBER.

Gregorian CALENDAR, that which, by means of epacts rightly diſpoſed, through the ſeveral months, determines the new and full moons, and the time of eaſter, with the moveable feaſts depending thereon, in the gregorian year. Therefore the gregorian calendar differs from the julian, both in the form of the year, and in that epacts are ſubſtituted inſtead of golden numbers. See the article EPACT.

Reformed, or *corrected* CALENDAR, that which, ſetting aſide golden numbers, epacts, and dominical letters, determines the equinox, with the paſchal full moon, and the moveable feaſts depending thereon, by aſtronomical computations, according to the rudolphine tables. This calendar was introduced among the proteſtant ſtates of Germany in the year 1700, when 11 days were, at once, thrown out of the month of February, by which means the corrected ſtile agrees with the gregorian.

CALENDAR *brothers, fratres calendarii,* a ſort of devout fraternities, compoſed of eccleſiaſtics as well as lay-men; whoſe chief buſineſs was to procure maſſes to be ſaid, and alms diſtributed, for the ſouls of ſuch members as were deceaſed. They alſo made laws and regulations for church diſcipline within their ſeveral diſtricts; which became of force by being confirmed by abbots or other prelates. They received legacies and donations of money, lands, &c. out of which they defrayed the charge of obits, wax-candles, and the like; what remained was ſpent in a collation in memory of the dead. They were alſo denominated calend brothers, by reaſon they uſually met on the calends of each month, though in ſome places only once a quarter.

Aſtronomical CALENDAR, an inſtrument engraved upon copper-plates; printed on paper, and paſted on board, with a braſs-ſlider which carries a hair, and ſhews by

 inſpection

inspection, the sun's meridian altitude, right ascension, declination, rising, setting, amplitude, *&c.* to a greater exactness than our common globes will shew.

CALENDER, a machine used in manufactories, to press certain woollen and silken stuffs, and linens, to make them smooth, even, and glossy, or to give them waves, or water them, as may be seen in mohairs and tabbies. This instrument is composed of two thick cylinders, or rollers, of very hard and polished wood, round which the stuffs, to be calendered, are wound: these rollers are placed cross-ways between two very thick boards, the lower serving as a fixed base, and the upper moveable, by means of a thick screw, with a rope fastened to a spindle, which makes its axis: the uppermost board is loaded with large stones cemented together, weighing 20000 lb, or more. It is this weight that gives the polish, and makes the waves on the stuffs about the rollers, by means of a shallow indenture or engraving cut in it.

At Paris they have an extraordinary machine of this kind, called the royal calender, made by order of M. Colbert; the lower table or plank of which is made of a block of smooth marble, and the upper lined at bottom with a plate of polished copper.

There are also calenders without wheels, which are wrought by a horse harnessed to a wooden bar, which turns a large arbor placed upright; at the top of which, on a kind of lanthorn, is wound a rope, the two ends of which being fastened to the two extremities of the upper plank of the engine, give it motion. But the horse calender is in less esteem than the wheel kind, as the motion of this latter is more equable and certain.

CALENDER also denotes the workman who manages the machine above described; applying the cloth or stuff underneath, after having first wound it on the rollers.

CALENDERS is also the name of a sort of dervises spread through Turky and Persia, whose order is not in general esteem among the Mahometans, as being reputed less abstemious and strict in morals than some other orders.

CALENDRING, the passing of cloths through the calender. See the article CALENDER.

We read of calendring worsteds. To improve linen farther, the drapers get several sorts of their cloths calendred; whereby their threads are made to lie flatter and smoother. Houghton describes calendring as performed by rolling the cloths on great wooden rollers, and laying them under a huge wooden box full of weighty materials, which is drawn by a horse to and fro on several of these rollers.

CALENDS, *calendæ*, in roman chronology, the first day of each month, so called from the greek καλειν, to proclaim: it being customary, on those days to proclaim the number of holy-days in each month.

The calends were reckoned backwards, or in a retrograde order: thus, the first of May begins the Calends of May; the 30th of April was the second of the calends of May; the 29th, the third, *&c.* to the 13th where the ides commence; which are also numbered in a retrograde order to the 5th, where the nones begin, and these are numbered after the same manner to the first of the month, which is the calends of April. The rules of computation by calends are expressed in the following verses:

Prima dies mensis cujusque est dicta calendæ:
Sex Maius nonas, *Julius, October, & Mars;*
Quatuor at reliqui: habet idus *quilibet octo;*
Inde dies reliquos omnes dic esse calendas;
Quas retro numerans, dices a mense sequente.

Hence to find the day of our month answering to that of the calends, to the number of days in the preceding month add two, and from this sum subtracting the number of calends given, the remainder will be the day of our month: thus the fourth of the calends of June is found to answer to the twenty-ninth of May: and so in other cases. See the articles IDES and NONES.

CALENDULA, MARYGOLD, in botany, a genus of the polygamia-necessaria class of plants, the compound flower of which is radiated, and the particular hermaphrodite ones tubulose, and lightly divided into five segments of the length of the cup: there are no central seeds of the discus; those of the periphery are sometimes, though rarely, solitary; they are of a membranaceous substance, compressed and cordated.

This plant, among physicians, passes for alexipharmic and hysteric.

CALENTES, in logics, a sort of syllogism in the fourth, commonly called galenical, figure, wherein the major proposition is universal and affirmative; and the

the second or minor, as well as the conclusion, universal and negative.

This is intimated by the letters it is composed of, where the A signifies an universal affirmative, and the two E's as many universal negatives. *Ex. gr.*

CA. Every affliction in this world is only for a time.

lEn. No affliction, which is only for a time, ought to disturb us.

tEs. No affliction ought to disturb us, which happens in this world.

The Aristotelians, not allowing the fourth figure of syllogisms, turn this word into CElAntEs, and make it only an indirect mood of the first figure.

CALENTURE, *calentura*, in medicine, a feverish disorder incident to sailors in hot climates; the principal symptom of which is, their imagining the sea to be green fields: hence, attempting to walk abroad in these imaginary places of delight, they are frequently lost.

The cause of this symptom is generally supposed to be a plethora or viscidity of the juices. The person thus affected has a fierce look, is very unruly, and at the same time so eager to get over-board to the imaginary green fields, and so strong, that sometimes six men are scarce sufficient to detain him. The symptoms generally happen in the night-time, and seem to be most frequent about the Mediterranean, in the hot season of the year, and affect chiefly the strongest, those that are young and of a sanguine complexion. The pulse here is sometimes so low, that it can scarce be felt, though sometimes it beats very strong. The patient seldom complains of the usual symptoms of a fever. After the struggle is over, and the distemper abated, a soreness and heaviness of the body are generally felt. The attack is usually sudden; if this distemper be taken in time, it seldom proves mortal.

The patient ought to be narrowly watched, for fear he should fall over-board: rest should be encouraged: barley water with white wine is a proper drink: all malt liquors and spirits are prejudicial in general, a slender liquid diet is the most convenient. The first step to be taken in the cure is, to bleed the patient; but it sometimes happens in this case, that the vessels are so full, and the juices so viscid, that several vessels must be opened, to obtain the desired quantity of blood; for which reason the orifice should be made pretty large.

CALF, *vitulus*, in zoology, the young of the ox-kind. See the article Bos.

Among sportsmen, the term calf is used for a hart or hind of the first year: the same term is also used for the young of the whale.

There are two ways of breeding calves; one, when they are allowed to suck their dams all the year round, chiefly used in countries where pasture is cheap; and the other, when being taken from their dams after sucking a fortnight, they are taught to drink milk, or milk and water, out of a tub. The former, however, of these methods is allowed to make the best cattle.

Sea-Calf, the english name of the *phoca* of authors. See the article Phoca.

Calf's-snout, in botany, the name of the antirrhinum of botanists. See the article Antirrhinum.

CALIBER, or Caliper, properly denotes the diameter of any body: thus we say, two columns of the same caliber, the caliber of the bore of a gun, the caliber of a bullet, *&c.* See Cannon, *&c.*

Caliber-compasses, the name of an instrument, made either of wood, iron, steel, or brass: that used for measuring bullets consists of two branches, bending inwards, with a tongue fixed to one of them, and the other graduated in such a manner, that if the bullet be compressed by the ends of the two branches, and the tongue be applied to the graduated branch, it will shew the weight of the bullet. See plate XXXV. fig. 3.

Caliber also signifies an instrument used by carpenters, joiners, and bricklayers, to see whether their work be well squared.

CALICUT, a town situated on the Malabar-coast, in the hither peninsula of India, subject to its own prince; east longitude 75°, and north latitude 11° 20′.

This was the first port the Portuguese made in India, after sailing round the cape of Good-hope.

CALIDUCTS, in antiquity, a kind of pipes, or canals, disposed along the walls of houses and apartments, used, by the antients, for conveying heat to several remote parts of the house, from one common surface.

CALIGA, in roman antiquity, was the proper soldier's shoe, made in the sandal-fashion, without upper-leather to cover the superior part of the foot, though otherwise reaching to the middle of the leg, and fastened with thongs. The sole of the caliga was of wood, like the sabot of

of the french peasants, and its bottom stuck full of nails, which clavi are supposed to have been very long in the shoes of the scouts and sentinels; whence these were called by way of distinction, caligæ speculatoriæ, as if, by mounting the wearer to a higher pitch, they gave a greater advantage to the fight. The others will have the caligæ speculatoriæ to have been made soft and woolly, to prevent their making a noise.

CALIPH, the supreme ecclesiastical dignity among the Saracens; or, as it is otherwise defined, a sovereign dignity among the mahometans, vested with absolute authority in all matters relating both to religion and policy.

It signifies in the arabic, successor or vicar: the saracen princes assumed this title as descendants from Mahomet; the caliphs bearing the same relation to Mahomet, that the popes pretend they do to Jesus Christ, or St. Peter. It is at this day one of the grand signior's titles, as successor of Mahomet; and of the sophi of Persia, as successor of Ali.

CALIPHATE, the dignity or office of caliph. See the preceding article.

CALIPPIC PERIOD, an improvement of the cycle of Meton, of nineteen years, which Calippus, a famous grecian astronomer, finding in reality to contain nineteen of Nabonassar's years, four days, and $\frac{331}{459}$, he, to avoid fractions, quadrupled the golden number, and by that means made a new cycle of seventy-six years; which time being expired, he supposed the lunation, or changes of the moon, would happen on the same day of the month, and hour of the day, that they were on seventy-six years before.

It is, however, demonstrated, that the calippic period itself is not accurate; that it does not bring the new and full moons precisely to their places; but brings them too late, by a whole day in 553 years. See the article CYCLE.

CALIXTINS, in church-history, a sect of christians, in Bohemia and Moravia: the principal point in which they differed from the church, was the use of the chalice, or communicating in both kinds.

CALIXTINS, is also a name given to those, among the lutherans, who follow the sentiments of George Calixtus, a celebrated divine, who opposed the opinion of St. Augustine, on predestination, grace, and free-will.

CALKING, or CALQUING. See the article CALQUING.

CALKINS, the prominent parts at the extremities of a horse-shoe, bent downwards, and forged to a sort of point.

Calkins are apt to make horses trip; they also occasion blymes, and ruin the back sinews. If fashioned in form of a hare's ear, and the horn of a horse's heel be pared a little low, they do little damage; whereas the great square calkins quite spoil the foot.

Calkins are either single or double, that is, at one end of the shoe, or at both: these last are deemed less hurtful, as the horse can tread more even.

CALL, among hunters, a lesson blown upon the horn, to comfort the hounds.

CALLS, *natural and artificial*, among fowlers, a sport much practised during the wooing season of partridges, especially for taking cock-partridges; for which they put a hen into a cage, to call and bring them near. The hen-partridge should be set near a hedge, in a thin, open, wire-cage, so that she may be seen, at a good distance: then the net, called hallier, should be placed quite round the cage, each part about the distance of twenty feet: the fowler should retire behind the hedge.

Artificial CALLS are best made of box, walnut tree, or the like: they are formed of the bigness of an hen's egg, bored thro' from end to end; about the middle there must be a hole hollowed within, to the bottom; then have a pipe of a swan's quill, and the bone of a cat's foot, opened at one end, which must be conveyed into the hole at the end, and so thrust into the hole at the middle; take afterwards a goose quill, opened at both ends, and put it in at the other end of the call; blow into the quill, and it will make the like noise as the partridge-cock does.

CALLA, in botany, a genus of the gynandria-polyandria class of plants, having no corolla; the fruits are berries of one cell each, containing many seeds of an oblong cylindrical figure, obtuse at both ends.

CALLAO, a port-town in a little island on the coast of Peru, in South America, opposite to Lima; west longitude 76°, and south latitude 12°.

CALLEN, a town of Ireland, in the county of Kilkenny, and province of Leinster, about ten miles south-west of Kilkenny; west longit. 7° 22', and north latitude 52° 25'.

CALLICARPA, in botany, a genus of the tetrandria monogynia class of plants, the calyx

calyx of which is a perianthium, consisting of one campanulated leaf, divided into four segments at the edge; the corolla is expanded, and consists of one petal divided also into four segments; the fruit is a globose, smooth, berry, containing four oblong compressed callous seeds.

CALLICO, in commerce, a kind of linen manufacture, made of cotton, chiefly in the East-Indies, some of which are painted with various flowers of different colours; and others that are never dyed, having a stripe of gold and silver quite through the piece; and at each end they fix a tissue of gold, silver and silk, intermixed with flowers. This manufacture is brought hither by the East-India company, and is re-exported by merchants to other parts of Europe. The general wear of stained or printed india callicoes in this nation having become a general grievance, and occasioning unspeakable distress upon our own manufacturers, they were prohibited by stat. 7 Geo. I. cap. vii.

CALLIFORNIA, a large country of the West-Indies, lying between 116° and 138° west longitude, and between 23° and 46° north latitude. It is uncertain whether it be a peninsula or an island.

CALLIGONUM, in botany, a genus of the polyandria-digynia class of plants, having no flower; the fruit is an oval, compressed, striated, hairy pericarpium, with bifid tops, turning backwards; the seed is single.

CALLIGRAPHUS, in antiquity, a copist or scriviner, who transcribed, in a fair hand, what the notaries had taken down in notes, or minutes, being generally in a kind of cypher or short-hand, which, as they were in that hand, being understood by few, were copied over fair, and, at length, by persons who had a good hand, for sale, *&c.*

CALLING *the house*, in the british parliament, is the calling over all the members names, every one answering to his own, and going out of the house, in the order in which he is called; this they do, in order to discover whether there be any persons there, not returned by the clerk of the crown; or if any member be absent without leave of the house.

CALLIPÆDIA, Καλλιπαιδεια, the art of getting or breeding fine and beautiful children.

We find divers rules and practices relating to this art, in antient and modern writers; among the magi, a sort of medicines called ermesia was prescribed to pregnant women, as a means of producing a beautiful issue. Of this kind were the kernels of pine nuts ground with honey, myrrh, saffron, palm wine, and milk. The Jews are said to have been so solicitous about the beauty of their children, that care was taken to have some very beautiful child (such as was Jochanan the disciple of Judah, author of the mischna) placed at the door of the public baths, that the women at going out being struck with his appearance, and retaining the idea, might all have children as fine as he. The Chinese take still greater care of their breeding women, to prevent uncouth objects of any kind from striking either their sense or imagination; musicians are retained to entertain them nightly with agreeable songs or odes, in which are set forth all the duties and comforts of the conjugal and domestic life; that the infant may take good impressions even before it is born, and not only come forth agreeably formed in body, but well disposed in mind.

Callipædia, nevertheless, seems to have been first erected into a just art by Claude Quillet de Chinon, a French abbot, who under the fictitious name of Calvidus Lætus, has published a fine latin poem, in four books, under the title of *callipædia, seu de pulchræ prolis habendæ ratione*; wherein are contained all the precepts of that new art.

CALLISTIA, in grecian antiquity, a lesbian festival, wherein the women presented themselves in Juno's temple, and the prize was assigned to the fairest. There was another of these contentions at the festival of Ceres Eleusinia, among the Parrhasians, and another among the Eleans, where the most beautiful man was presented with a complete suit of armour, which he consecrated to Minerva, to whose temple he walked in procession, being accompanied with his friends, who adorned him with ribbands, and crowned him with a garland of myrtle.

CALLITRICHE, in botany, a genus of the monandria digynia class of plants, without any calyx; the corolla consists of two incurved acuminated caniculated, opposite petals; the fruit is a roundish four cornered compressed capsule, containing two cells; in each of which is a single oblong seed.

CALLOSUM CORPUS, in anatomy, a whitish hard substance, joining the two hemis-

hemifpheres of the brain, and appears in view when the two hemifpheres are drawn back. See the article BRAIN.

In this part Lancifi and feveral others have fuppofed the foul particularly to refide.

CALLUS, or CALLOSITY, in a general fenfe, any cutaneous, corneous, or offeous hardnefs, whether natural or preternatural: but moft frequently it means the callus generated about the edges of a fracture, provided by nature to preferve the fractured bones, or divided parts, in the fituation in which they are replaced by the furgeon.

A callus, in this laft fenfe, is a fort of jelly, or liquid vifcous matter, that fweats out from the fmall arteries and bony fibres of the divided parts, and fills up the chinks, or cavities, between them. It firft appears of a cartilaginous fubftance, but at length becomes quite bony, and joins the fractured part fo firmly together, that the limb will often make greater refiftance to any external violence with this part, than with thofe which were never broken.

But as the new flefh in wounds will often fprout up too faft, fo will the callus in fractures, and by this means render the limb uneven and deformed; the only meafure to prevent this luxuriancy, is by making the bandage fomewhat tighter than ordinary, and wetting it firft with fpirits of wine. When the callus is indurated, we have no medicine that will deftroy it, or take it down: however, the emplaftrum de ranis vigon. cum mercurio, tying a plate of lead over it, is prefcribed for taking it down.

CALLUS is alfo a hard, denfe, infenfible knob, rifing on the hands, feet, *&c.* by much friction and preffure againft hard bodies.

CALM, in the fea-language, is when there is no wind ftirring.

That tract of fea, to the northward of the equator, between 4° and 10° of latitude, lying between the meridians of Cape Verde, and of the eaftermoft ifland of that name, feems to be a place condemned to perpetual calms: the little winds that are being only fome fudden uncertain gufts of very fmall continuance, and lefs extent. The Atlantic ocean, near the equator, is very much fubject, nay always attended with thefe calms.

CALMAR, the capital of the province of Gothland, in Sweden, fituated on the coaft of the Baltic fea, about forty miles north of Carelfcroon; eaft longitude 16°, and north latitude 56° 40'.

CALMUCKS, certain wandering tribes or hords of Tartars, inhabiting the country north of the Cafpian fea, under the protection of Ruffia.

CALNE, a borough-town of Wiltfhire, about twenty miles north of Salifbury, which fends two members to parliament; weft longit. 2°, and north lat. 51° 30'.

CALOGERI, in church-hiftory, monks of the greek church, divided into three degrees, the novices, called archari; the ordinary profeffed, called microchemi; and the more perfect, called megalochemi: they are likewife divided into coenobites, anchorets, and reclufes. The coenobites are employed in reciting their office from midnight to funfet, they are obliged to make three genuflexions at the door of the choir; and returning, to bow to the right and to the left, to their brethren. The anchorets retire from the converfation of the world, and live in hermitages, in the neighbourhood of the monafteries; they cultivate a little fpot of ground, and never go out but on fundays and holy days, to perform their devotions at the next monaftery. As for the reclufe, they fhut themfelves up in grottos and caverns, on the tops of mountains, which they never go out of, abandoning themfelves entirely to providence; they live on the alms fent them by the neighbouring monafteries.

CALOMEL, in the materia medica, a name given to mercurius dulcis, fublimated fix times; the preparation is done thus.

Take corrofive fublimate a pound, purified mercury nine ounces; add the quickfilver to the mercury, reduce to powder, and digeft them together in a glafs matrafs, in a gentle fand heat, frequently fhaking the veffel, till the whole is united: when they are thus mixed, increafe the heat, fo as to fublimate the whole; take out the fublimate, and fcrape off an acrid part that is found at the top of it; and if any globules of mercury appear, feparate them alfo; let the fublimation be repeated fix times. It is a gentle purgative, and a very noble attenuant. It is the greateft of all medicines againft worms, and is now the general remedy in a gonorrhœa. The common method of giving it is in a bolus, over night, ten or twelve grains for a dofe, and a purging draught the next morning, *&c.* Rubbed with an equal quantity of ful-

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phur

phur antimonii auratum, it is recommended as a powerful and safe alterative.

CALOPHYLLUM, in botany, a genus of the polyandria-monogynia class of plants, whose corolla consists of four roundish, hollow, patent petals, and is larger than the cup: the fruit is a large globose drupe, with only one cell: the seed is a large, single, globose, acuminated nut.

CALOTTE, a cap or coif of hair, satin, or other stuff: an ecclesiastical ornament in most popish countries. See CAP.

CALOTTE, in architecture, a round cavity or depressure, in form of a cap or cup, lathed and plastered, used to diminish the rise or elevation of a moderate chapel, cabinet, alcove, *&c.* which, without such an expedient, would be too high for other pieces of the apartment.

CALPE, the mountain, at the foot of which, towards the sea, Gibraltar stands. It is half a league in height towards the land, and so steep, that there is no approaching it on that side.

CALQUING, or CALKING, a term used in painting, *&c.* where the backside of any design is covered with a black or red colour, and the strokes, or lines, traced through, on a waxed plate, wall, or other matter, by passing lightly over each stroke of the design, with a point, which leaves an impression of the colour on the plate or wall.

CALTHA, MARSH-MARYGOLD, in botany, a genus of the polyandria-polygynia class of plants; the flower of which consists of five large, oval, plane, patent, deciduous petals: the fruit is short, acuminated, patent, bicarinated, and open at the upper suture; the seeds are numerous and roundish, and adhere to the upper suture.

CALTROP, in military affairs, an instrument with four iron points, disposed in a triangular form, so that three of them are always on the ground, and the fourth in the air. They are scattered over the ground where the enemy's cavalry is to pass, in order to embarass them.

CALTROP, in botany, the english name of the *tribulus* of botanists. See the article TRIBULUS.

CALVARIA, in anatomy, the hairy scalp, or upper part of the head, which, either by disease, or old age, grows bald first. See the articles HEAD and CALVITIES.

CALVARY, a term used in popish countries, for a sort of chapel of devotion, raised on a little hill near the city, in memory of the place where Jesus Christ was crucified, near Jerusalem.

CALVARY, in heraldry, a cross so called, because it resembles the cross on which our Saviour suffered. It is always set upon steps. See plate XXXV. fig. 4.

CALVI, a town of the province of Lavoro, in the kingdom of Naples, situated near the sea, about fifteen miles north of the city of Naples; east longit. 14° 45′, and north latitude 41° 15′.

CALVI is also the name of a sea-port in the island of Corsica, situated on a bay, on the west side of the island, about forty miles south-west of Bastia; east longit. 9° 5′, and north lat. 42° 16′.

CALVINISTS, in church-history, those who follow the opinions of John Calvin, one of the principal reformers of the church, in the XVIth century, a person of great parts and industry, and of considerable learning; whose doctrine still subsists in its greatest purity at Geneva, where it was first broached, and from whence it was propagated. This is the prevailing religion of the United Provinces. In England, it is confined among the dissenters; and, in Scotland, it subsists in its utmost rigour.

The calvinists are great advocates for the absoluteness of God's decrees, and hold that election and reprobation depend on the mere will of God, without any regard to the merit or demerit of mankind; that he affords to the elect an irresistible grace, a faith that they cannot lose, which takes away the freedom of will, and necessitates all their actions to virtue.

The calvinists believe that God foreknew a determinate number, whom he pitched upon to be persons, in whom he would manifest his glory; and that having thus foreknown them, he predestinated them to be holy, in order to which he gives them an irresistible grace, which makes it impossible for them to be otherwise.

CALVITIES, or CALVITIUM, in medicine, baldness, or a want of hair, particularly on the sinciput, occasioned by the moisture of the head, which should feed it, being dried up, by some disease, old age, or the immoderate use of powder, *&c.* See the article ALOPECIA.

CALUMET, a mystic kind of pipe used by the american Indians, as the ensign of peace, and for religious fumigations. It is made of red, black, or white marble; the head resembles our tobacco-pipes, but larger; and is fixed on a hollow reed, to hold it for smoaking: they adorn it with

rounds of feathers and locks of hair, or porcupines quills, and in it they ſmoke in honour of the ſun, eſpecially if they want fair weather, or rain. This pipe is a paſs and ſafe conduct amongſt all the allies of the nation who has it given: in all embaſſies the embaſſador carries it as an emblem of peace, and it always meets with a profound regard; for the ſavages are generally perſuaded, that a great misfortune would befal them, if they violated the public faith of the calumet.

CALX properly ſignifies lime, but is alſo uſed by chemiſts and phyſicians for a fine powder remaining after the calcination, or corroſion, of metals and other mineral ſubſtances. See CALCINATION.

CALX ANTIMONII is prepared of diaphoretic antimony, with three times its weight of nitre, and afterwards waſhed from its ſalts: it is ſaid to be a good diaphoretic.

Calx of tin is called putty; that of braſs, æs uſtum: and that of lead, ceruſs. See PUTTY, ÆS USTUM, and CERUSS.

CALX NATIVA, in natural hiſtory, a kind of marly earth, of a dead whitiſh colour, which, if thrown into water, makes a conſiderable bubbling and hiſſing noiſe, and has, without previous burning, the quality of making a cæment like lime, or plaſter of Paris.

CALX VIVA, QUICK LIME, that whereon no water has been caſt, in contradiſtinction to lime which has been ſlaked by pouring water on it.

CALX, in anatomy, the ſame with *calcaneum*. See the article CALCANEUM.

CALYCISTÆ, an appellation given by Linnæus to thoſe botaniſts, who have claſſed plants according to the different ſtructure of the calyx, or cup of the flower; ſuch was Magnolius.

CALYPTRA, among botaniſts, a thin membranaceous involucrum, uſually of a conic figure, which covers the parts of fructification. The capſules of moſt of the moſſes have calyptræ.

CALYX, among botaniſts, a general term expreſſing the cup of a flower, or that part of a plant which ſurrounds and ſupports the other parts of the flower.

The cups of flowers are very various in their ſtructure, and on that account diſtinguiſhed by ſeveral names, as perianthium, involucrum, ſpatha, gluma, &c. See the articles PERIANTHIUM, &c.

CAM, a river, antiently called Grant, which, riſing in Hertfordſhire, runs north-eaſt by Cambridge, and afterwards continues its courſe northwards, to the iſle of Ely, where it falls into the river Ouſe.

CAMÆA, in natural hiſtory, a genus of the ſemipellucid gems, approaching to the onyx ſtructure, being compoſed of zones, and formed on a cryſtalline baſis; but having their zones very broad and thick, and laid alternately on one another, with no common matter between; uſually leſs tranſparent, and more debaſed with earth, than the onyxes.

1. One ſpecies of the camæa is the dull-looking onyx, with broad black and white zones; and is the camæa of the moderns, and the arabian onyx: this ſpecies is found in Egypt, Arabia, Perſia, and the Eaſt-Indies. 2. Another ſpecies of the camæa is the dull, broad-zoned, green and white camæa, or the jaſpi-cameo of the Italians: it is found in the Eaſt-Indies, and in ſome parts of America. 3. The third is the hard camæa, with broad white and cheſnut-coloured veins. 4. The hard camæa, with bluiſh, white, and fleſh-coloured broad veins, being the ſardonyx of Pliny's time, only brought from the Eaſt-Indies.

CAMAIEU, or CAMEHUIA, in natural hiſtory, the ſame with camæa. See the preceding article.

This word is alſo uſed to expreſs a ſtone on which are found various figures and repreſentations of landſkips, &c. formed by a kind of luſus naturæ, ſo as to exhibit pictures without painting. It is likewiſe applied to any kind of gem on which figures are engraven, either indentedly or in relievo.

CAMAIEU, is alſo a term in painting, when there is only one colour, the lights and ſhades being of gold, or on a golden and azure ground. It is chiefly uſed to repreſent baſſo-relievos.

CAMALDULIANS, a religious order founded by St. Romauld, in a little plain, on the mount Apennine, called Camaldali, ſituated in the ſtate of Florence.

The manner of life firſt enjoined this order, was that they dwelt in ſeparate cells, and met together only at the time of prayer: ſome of them, during the two lents of the year, obſerved an inviolable ſilence; and others, for the ſpace of an hundred days. On Sundays and Thurſdays they fed on herbs, and the reſt of the week only on bread and water. Theſe conſtitutions were, however, a little moderated ſometime afterwards. This hermitage is now accounted very rich.

CAM-

CAMBAIA, a city of the province of Cambaia, or Guzarat, in the hither peninfula of India; it is a very large city, and had once a great trade, now removed to Surat; eaft longitude 72°, and north lat. 23° 30′.

CAMBER-BEAM, among builders, a piece of timber in an edifice, cut archwife, or with an obtufe angle in the middle, commonly ufed in platforms, as church-leads, and on other occafions where long and ftrong beams are required.

CAMBERED DECK, in fhip-building, one that lies compaffing, or higher in the middle than at either end; by no means fit for a fhip of war.

CAMBLET, or CAMLET, a plain ftuff, compofed of a warp and woof, which is manufactured on a loom, with two treddles, as linens and flannins are.

There are camblets of feveral forts, fome of goat's hair, both in the warp and woof; others, in which the warp is of hair, and the woof half hair and half filk; others again, in which both the warp and the woof are of wool; and laftly, fome, of which the warp is of wool and the woof of thread. Some are dyed in thread, others are dyed in the piece, others are marked or mixed; fome are ftriped, fome waved or watered, and fome figured.

Camblets are proper for feveral ufes, according to their different kinds and qualities; fome ferve to make garments both for men and women; fome for bed curtains; others for houfhold furniture, &c. See the article MOHAIR.

CAMBODIA, the capital of a kingdom of the fame name in India, beyond the Ganges; eaft long. 104°, and north lat. 12° 30′.

The kingdom of Cambodia extends from 9° to 15° of north latitude, being bounded by the kingdom of Laos on the north, Cochin-china on the eaft, the indian ocean on the fouth, and by the bay of Siam on the weft.

CAMBOGIA, in botany, a genus of the polyandria monogynia clafs of plants, the calyx of which is a perianthium, confifting of four roundifh concave deciduous leaves, the corolla is made up of four roundifh oblong concave petals, with oblong ungues; the fruit is a roundifh octangular apple, containing eight cells, in which are lodged fingle oblong, kidney-fhaped compreffed feeds.

CAMBRAY, a city in the french Netherlands, fituated on the river Schelde, near its fource; eaft longitude 3° 15′, and north latitude 50° 15′.

It is a large and well built city, confiderable for its linen manufacture, efpecially cambricks, which took their name from hence.

CAMBRICKS, a fpecies of very fine white linen, made of flax at Cambray.

CAMBRIDGE, the capital of Cambridgefhire, fituated upon the river Cam, about fifty-five miles norrh of London, and fixty north-eaft of Oxford; eaft longitude 5′, and north lat. 52° 15′.

Cambridge is moft remarkable on account of its univerfity, which confifts of fixteen colleges, wherein are educated about fifteen hundred ftudents. There are fourteen parifhes in the town, which is faid to contain about fix thoufand inhabitants.

New CAMBRIDGE, a town of New-England, about three miles weft of Bofton; likewife remarkable for an univerfity, confifting of three colleges; weft longit. 70° 4′, and north lat. 42°.

CAMEA, or CAMÆA, in natural hiftory. See the article CAMÆA.

CAMEL, *camelus*, in zoology, a genus of quadrupeds, of the order of the *pecora*; diftinguifhed from the reft by having no horns.

This genus comprehends the camel, properly fo called, with two bunches on its back; the dromedary, or camel with a fingle bunch; the *glama*, or peruvian camel, with a gibbofe breaft and even back; and the *pacos*, or camel with no gibbofity at all.

The camel is larger than the dromedary, and covered with a fine fur, fhorter as well as fofter than that of the ox-kind: only about the bunches there grow hairs nearly a foot long. It is a native of Afia, particularly of Bactria, and makes an excellent beaft of burden. See plate XXXV. fig. 6.

CAMELEON, or CHAMÆLEON, in zoology. See the article CHAMÆLEON.

CAMELFORD, a borough-town of Cornwall, about twenty miles weft of Launcefton; weft longit. 5°, and north lat. 50° 40′.

It fends two members to parliament.

CAMELITA BOS, in zoology, a kind of wild bull, with a bunch on its back: probably the fame with the *bifon*.

CAMELLIA, in botany, a genus of the monadelphia-polyandria clafs of plants: the flower confifts of five ovated petals, connected vertically at the bafe; the fruit is a turbinated, lignofe, and furrowed capfule; the feeds are numerous and fmall.

CAMELOPARDALIS, in zoology, a

 fpecies

ſpecies of cervus, with the ſimple horns and the forelegs very long. See Cervus. This is one of the moſt extraordinary animals in the world; when it ſtands erect it meaſures to the head not leſs than ſixteen feet from the ground, and from the front of the noſe to the tail eighteen feet.

CAMELUS, the camel, in zoology. See the article Camel.

CAMERA obscura, in optics, a machine repreſenting an artificial eye, wherein the images of external objects are exhibited diſtinctly, in their native colours, either invertedly, or erect.

The camera obſcura, or darkened room, is made after two different methods; one is the camera obſcura, properly ſo called, that is, any large room made as dark as poſſible, ſo as to exclude all light, but that which is to paſs through the hole and lens in a ball, fixed in the window in the ſaid room.

The other is made in various forms, as that of a box, whoſe ſides fold out, &c, for the conveniency of carrying it from place to place.

Conſtruction of the Camera obscura. For the conſtruction of a camera obſcura, 1. Darken the room E F (plate XXXV. fig. 7.) leaving only one little aperture open, in the window, at V, on the ſide I K, facing the proſpect A B C D. 2. In this aperture fit a lens, either plane convex or convex on both ſides. 3. At a due diſtance, to be determined by experience, ſpread a paper, or white cloth, unleſs there be a white wall for the purpoſe: then on this, G H, the deſired objects, A B C D, will be delineated invertedly. 4. If you would have them appear erect, place a concave lens between the center and the focus of the firſt lens; or receive the image on a plane ſpeculum, inclined to the horizon, under an angle of 45°; or by means of two lenſes included in a draw-tube, inſtead of one. If the aperture does not exceed the bigneſs of a pea, the objects will be repreſented without any lens at all.

For the conſtruction of a portable camera obſcura, the box, or cheſt, muſt be in breadth and length proportionable to the different magnitude of the diameter of the lens. In one of the ſides fix a lens, and white paper on an oppoſite glaſs, at a proper diſtance; and having made a little hole near the glaſs, you may, through that, ſee the images of the objects, in a beautiful manner, on the paper.

Philoſophy of the Camera obscura. The following particulars are to be attended to in this philoſophical contrivance. Firſt, that the lens be extremely good, or free from any veins, blebs, &c. which may diſtort and blemiſh the picture. Secondly, that the lens be placed directly againſt the object whoſe picture you would have perfectly formed to contemplate, for, if the glaſs has any other poſition to the object, the image will be very imperfect, indiſtinct, and confuſed. Thirdly, care ought to be taken that the ball be ſufficiently large, and the frame in which it is placed not too thick, that ſo there may be ſufficient room for turning the ball every way to take in as many objects as poſſible, and to render the uſe thereof more complete. Fourthly, the lens ought to be of a juſt magnitude or aperture; for, if it be too ſmall, the image will be obſcure, and the minute parts not viſible at a diſtance for want of requiſite light. On the other hand, if the aperture be too large, the image will be confuſed, and become indiſtinct by too much light. Therefore, fifthly, if by experience we find that an aperture of two inches diameter is beſt for a lens of ſix feet focal diſtance, then the diameter of any other lens of a different focal diſtance, ought to be in the ſubduplicate ratio of ſix to the ſaid focal diſtance, that the object, or its image rather, may be equally bright and diſtinct in both. Sixthly, we ought not to attempt to exhibite a picture of objects in a dark room, unleſs the ſun ſhines upon, or ſtrongly illuminates the objects; for mere day-light is not ſufficient for this purpoſe, the greateſt beauty in this phænomenon being the exquiſite appearance and contraſts of lights and ſhadows, none of which can appear but from an object placed in the ſun-beams, without which every thing looks dark and dull, and makes a diſagreeable figure. Therefore, ſeventhly, the window or the ſide of the room where the ſcioptric ball is uſed, ought to look towards that quarter directly upon which the ſun ſhines, that ſo the illuminated ſides of objects may preſent themſelves to the lens, and appear more glorious in the picture. Eighthly, it is eaſy to infer, that the beſt time of the day for this experiment is about noon, becauſe the ſun-beams are ſtrongeſt, and of courſe the picture moſt luminous and diſtinct: alſo, that a north window

is the beſt; though, for viewing the ſhadows in greateſt perfections, an eaſt or weſt window will anſwer the end beſt. Ninthly, as the image is formed only by the reflected rays of the ſun, ſo due care ſhould be taken that none of the ſun's direct rays fall on the lens in the window; for, if they do, they will by mixing with the former greatly diſturb the picture, and render it very confuſed and unpleaſant to view. Tenthly, as white bodies reflect the incident rays moſt copiouſly, and black ones abſorb them moſt; ſo, to make the picture moſt perfect, it ought to be received upon a very white ſurface, as paper, painted cloth, a wall, *&c.* bordered round with black, ſo that the collateral rays which come from on each ſide the object may be ſtifled, and not ſuffered to diſturb the picture by reflection.

Theſe are the neceſſary precautions for the due ordering of the various circumſtances of this experiment. We ſhall now enumerate the principal phænomena of the dark chamber. The firſt of which is, that an exact and every way ſimilar image is formed of an external object; for pencils of rays, coming from all parts of the object, will repreſent thoſe points in ſuch a manner and poſition, as will be very proportional and correſpondent to their reſpective poſitions and diſtances in the object, ſo that the whole in the image ſhall bear an exact ſimilitude or likeneſs of the object in every reſpect. The ſecond phænomenon is, that the image will bear the ſame proportion to the object, whether a line, ſuperficies, or ſolid, as their diſtances from the glaſs reſpectively. Hence the larger the focal diſtance of the glaſs, the more ample will be the picture of the ſame object, but the leſs will be the ſpace or compaſs of the plan, or reſpective view. The third phænomenon is, that the image or picture of the object is inverted; and this is not the effect of the glaſs, but the croſſing the rays in the hole through which they paſs into the room; for, if a very ſmall hole were made in the window-ſhutter of a darkened room, the objects without would be all ſeen inverted, thoſe which come from the upper part of the object going to the lower part of the image, and *vice verſa.* All that the glaſs does is to render the image diſtinct, by converging the rays of every pencil to their proper focus in the picture, the poſition of each point being the ſame as before. The fourth phænomenon is the motion or reſt of the ſeveral parts of the picture, according as thoſe in the object are in either ſtate. The reaſon of this is very obvious; and this it is what gives life and ſpirit to the painting and portraits of nature, and is the only particular inimitable by art. And, indeed, a more critical idea may be formed of any movement in the picture of a darkened room, than from obſerving the motion of the object itſelf: for inſtance, a man walking in a picture appears to have an undulating motion, or to riſe up and down every ſtep he takes; whereas nothing of this kind is obſerved in the man himſelf, as viewed by the bare eye. The fifth phænomenon is the colouring of the optic picture; every piece of imagery has its proper tints and colours, and thoſe always heightened and rendered more intenſe than in the object; ſo that in this reſpect it is an improvement of nature itſelf, whereas the art of the greateſt maſter can only pretend to a diſtant reſemblance and faint imitation. The reaſon why the image is coloured is, becauſe, the ſeveral points of the object reflecting ſeveral ſorts of coloured rays to the glaſs, thoſe rays will give a repreſentation of thoſe ſeveral parts reſpectively, and in their own colour, and therefore in thoſe of the object; but thoſe colours will be heightened, becauſe they are crouded into a leſs ſpace. The ſixth phænomenon is the claro obſcuro, as the Italians call it; that is, the intenſity of light and ſhadow in the picture: and this as well as the colouring is greatly heightened, above what it is in the object, by reaſon of the leſſer area of the picture. Here every light and every ſhade is expreſſed in its proper degree, from the moſt brilliant in the one to the moſt jetty black of the other, incluſive of a wonderful variety in the ſeveral parts, ariſing from the different ſituations of the ſeveral parts of the object, and the different angles of reflection. A juſt imitation of nature in the diſtribution of light and ſhadows is perhaps the moſt difficult part of the art of painting, and on which its greateſt perfection depends. The ſeventh phænomenon is the optical perſpective, or projection of the image, which is not in plano, or on a plane, as in common perſpective, but on a ſurface deſcribed by the revolution of a conic ſection about its axis; therefore, though in general a plane ſurface is made uſe of, and may do very well in large repreſentations, yet in ſmaller ones, as thoſe of the portable Camera's,

mera's, it is neceffary to have the image or picture complete, or every-where well defined, that it be received upon the furface of an elliptic figure, and fuch as is fuited to the middle diftance of the objects. But this is a nicety which few will think worth regarding, who do not aim at a very great accuracy indeed in what they do.

We fhall finifh this fubject with an obfervation that may be ufeful to perfons concerned in drawing; and that is, that, if an object be placed juft twice the focal diftance from the glafs without, the image will be formed at the fame diftance from the glafs within the room, and confequently will be equal in magnitude to the object itfelf.

CAMERARIA, in botany, a genus of the pentandria-monogynia clafs of plants, the flower of which is a petal of a funnel-form, with a cylindraceous long tube, ventricofe both at the bafe and the top, a plane limb divided into five lanceolated fegments: the fruit is compofed of two oblong follicles, bent horizontally, obtufe at both ends, and fending out a lobe on each fide, near the bafe; they have one cell, with one valve, containing numerous, oval, and imbricated feeds, inferted in a large oval membrane, at the bafe.

CAMERATED, among builders, the fame with vaulted or arched.

CAMERLINGO, according to Ducange, fignified formerly the pope's or emperor's treafurer: at prefent, camerlingo is no where ufed, but at Rome, where it denotes the cardinal who governs the ecclefiaftical ftate, and adminifters juftice. It is the moft eminent office at the court of Rome, becaufe he is at the head of the treafury. During a vacation of the papal chair, the cardinal camerlingo publifhes edicts, coins money, and exerts every other prerogative of a fovereign prince; he has under him a treafurer general, auditor general, and twelve prelates called clerks of the chamber.

CAMERON-CAPE, a promontory on the north part of the province of Honduras, in north America.

CAMERONIANS, a party of prefbyterians, which fprung up in Scotland, in the reign of king Charles II. They affirmed that the king had forfeited his right to the crown, by breaking the folemn league and covenant, which were the terms on which he received it. They pretended both to dethrone and excommunicate him; and broke out into an open rebellion. Upon the revolution, they were reconciled to the kirk, and their preachers fubmitted to the general affembly of the church of Scotland, in 1690.

CAMILLI, and CAMILLÆ, in roman antiquity, a certain number of boys and girls, who affifted in the facrifices to the gods; but more efpecially attended the flamen dialis.

CAMINHA, a port-town of Portugal, fituated at the mouth of the river Minho, about ten miles north of Viana; weft lon. 9° 20′, and north lat. 41° 50′.

CAMIS, or KAMIS, in the japonefe affairs, denote the deified fouls of illuftrious perfonages, believed to intereft themfelves in the welfare of their countrymen: in which fenfe they anfwer to the deified heroes of antiquity. See the article HERO.

CAMISADE, in the art of war, an attack by furprife in the night, or at the point of day, when the enemy is fuppofed a-bed.

CAMMIN, a port-town of Brandenburg-Pomerania, in Germany, fituated on the eaftern mouth of the river Oder, about thirty miles north of Stetin; eaft longit. 15°, and north lat. 54°.

CAMOMILE, or CHAMÆMILE, *Chamæmilum*. See the article CHAMÆMILE.

CAMP, the ground upon which an army pitch their tents. It is marked out by the quarter-mafter-general, who appoints every regiment their ground.

The chief advantages to be minded in chufing a camp for an army, are to have it near the water, in a country of forage, where the foldiers may find wood for dreffing their victuals; that it have a free communication with garrifons, and with a country from whence it may be fupplied with provifions; and, if poffible, that it be fituated on a rifing ground, in a dry gravelly foil. Befides, the advantages of the ground ought to be confidered, as marfhes, woods, rivers, and inclofures; and if the camp be near the enemy, with no river or marfh to cover it, the army ought to be intrenched. An army always encamps fronting the enemy; and generally in two lines, running parallel about five hundred yards diftance; the horfe and dragoons, on the wings, and the foot in the center: fometimes a body of two, three, or four brigades is encamped behind the two lines, and is called the body of referve. The artillery and bread-

waggons

waggons are generally encamped in the rear of the two lines. A battalion of foot is allowed eighty or an hundred paces for its camp; and thirty or forty for an interval betwixt one battalion and another. A ſquadron of horſe is allowed thirty for its camp, and thirty for an interval, and more if the ground will allow it.

The diſpoſition of the hebrew encampment was at firſt laid out by God himſelf: their camp was of a quadrangular form, ſurrounded with an incloſure of the height of ten hand's breadth. It made a ſquare of twelve miles in compaſs, about the the tabernacle; and within this was another, called the levites camp. The Greeks had alſo their camps, fortified with gates and ditches. The Lacedæmonians made their camp of a round figure, looking upon that as the moſt perfect and defenſible of any form: we are not, however, to imagine, that they thought this form ſo eſſential to a camp, as never to be diſpenſed with, when the circumſtance of the place required it. Of the reſt of the grecian camps, it may be obſerved, that the moſt valiant of the ſoldiers were placed at the extremities, the reſt in the middle.

Thus we learn from Homer, that Achilles and Ajax were poſted at the ends of the camp before Troy, as bulwarks on each ſide of the reſt of the princes.

The camps of the Romans were generally of an exact ſquare form, or elſe oblong; though this, without doubt, was often accommodated to the ſituation of the place. They were always fortified, and a very exact diſcipline maintained in them, in order to prevent ſurprizes from the enemy.

Camp is alſo uſed, by the Siameſe, and ſome other nations in the Eaſt-Indies, as the name of the quarters, which they aſſign to the foreigners who come to trade with them.

In theſe camps every nation forms, as it were, a particular town, where they carry on all their trade, not only keeping all their ware-houſes and ſhops there, but alſo live in theſe camps with their whole families. The Europeans, however, are ſo far indulged, that at Siam, and almoſt every where elſe, they may live either in the cities or ſuburbs, as they ſhall judge moſt convenient.

Flying Camp, the ground on which a flying army is encamped.

Camp diseases are chiefly a bilious fever, malignant fever, ſcurvy, fluxes, &c. See the articles Fever and Campaign.

Camp-hospital. See Hospital.

CAMPAIGN, in the art of war, denotes the ſpace of time that an army keeps the field, or is encamped, in oppoſition to quarters.

Concerning the healthineſs of the different ſeaſons of a campaign, the ingenious Dr. Pringle has the following obſervations: the firſt fortnight or three weeks is always ſickly, after which the ſickneſs decreaſes, and the men enjoy a tolerable ſtate of health throughout the ſummer, unleſs they get wet cloaths. The moſt ſickly part of the campaign is towards the end of Auguſt, whilſt the days are ſtill hot, but the nights cold and damp, with fogs and dews; then, if not ſooner, the dyſentery prevails: and though its violence is over by the beginning of October, yet the remitting fever gaining ground, continues throughout the reſt of the campaign, and never entirely ceaſes, even in winter-quarters, till the froſts begin. He likewiſe obſerves, that the laſt fortnight of a campaign, if protracted till the beginning of November, is attended with more ſickneſs than the two firſt months of the encampment; ſo that it is better to take the field a fortnight ſooner, in order to return into winter-quarters ſo much the earlier.

As to winter-expeditions, though ſevere in appearance, he tells us, they are attended with little ſickneſs, if the men have ſtrong ſhoes, warm quarters, fuel, and proviſions enough.

CAMPANIA, a city of the hither Principate, in the kingdom of Naples, ſituated about thirty-five miles ſouth-eaſt of the city of Naples; eaſt long. 15° 30′, and north lat. 40° 45′.

Campania, or Campagna di Roma, a province of the pope's territories, in Italy, extending from the city of Rome ſouth-eaſt, as far as the frontiers of the kingdom of Naples.

CAMPANIFORM, or Campanulated, an appellation given to flowers reſembling a bell; a characteriſtic, whereon Tournefort eſtabliſhes one of his claſſes of plants. See the article Botany.

Of campaniform flowers, we meet with four varieties. 1. The bell flower, properly ſo called. 2. The oblong or tubular bell-flower. 3. The bell-flower, expanded to a great width at the mouth, and conſequently reſembling a baſon.

4.

4. The globular, or roundiſh bell-flower; the mouth of which is narrower than its belly.

CAMPANOLOGIA, the art or ſcience of ringing bells.

An anonymous author has publiſhed a *campanologia* improved, or the art of ringing made eaſy, by plain and methodical rules, and directions for ringing all manner of double, triple, or quadruple changes, with variety of new peals upon 5, 6, 7, 8, and 9 bells; as alſo the method for calling bobs for any peal of triples from 168 to 2500; (being the half peal) alſo for any peal of quadruples or cators, from 324 to 11340.

CAMPANULA, BELL-FLOWER, in botany, a genus of the pentandria-monogynia claſs of plants; the flower of which conſiſts of a campanulated ſingle petal; the baſe, broad and impervious; the limb lightly divided into five broad, acute, and patulous ſegments. The nectarium is ſituated in the bottom of the corolla, and is formed of five acute connivent valves. The fruit is an angulated roundiſh capſule, with three or five cells, and having ſo many foramina in the ſides, for letting out the ſeeds. The ſeeds are numerous and ſmall, and the receptacle fixed and columnar.

CAMPBELL-TOWN, a parliament-town of Argyleſhire, in Scotland, ſituated on the eaſtern coaſt of Cantire, about ten miles weſt of the iſland of Arran; weſt longitude 5° 10′, and north lat. 55° 35′.

CAMPDEN, a market-town in Glouceſterſhire, about eighteen miles north-eaſt of Glouceſter; weſt longitude 1° 50′, and north latitude 52°.

CAMPEACHY, or CAMPECHY, a town of the province of Jucatan, on the bay or gulph of Mexico; weſt longitude 93°, north latitude 19°.

CAMPEACHY-WOOD, *campecia*, in botany, the ſame with the hæmatoxylum of Linnæus; otherwiſe called log-wood.

It is brought to us in large and thick blocks or logs, and is the heart only of the tree which produces it. It is very heavy, and remarkably hard. It is not eaſily cut, but it ſplits pretty readily in a longitudinal direction.

Campeachy-wood muſt be choſen in large and thick pieces, ſound, and of a deep-red colour. It has been long known among the dyers; but it is only of late, that it has been introduced into medicine. It is found to be an excellent aſtringent, and is given, in form of an extract, in diarrhœas, with very great ſucceſs.

CAMPEN, a port-town, in the province of Overyſſel, in the united Netherlands, near the mouth of the river Iſſel, about forty-two miles north-eaſt of Amſterdam; eaſt longitude 5° 40′, and north latitude 52° 35′.

CAMPHOR, or CAMPHIRE, in the materia medica, a vegetable ſubſtance, of a particular nature, being neither a reſin, nor a volatile ſalt, nor an oil, nor a juice, nor a bitumen, nor a gum, but a mixed body dry, white, tranſparent, and brittle, of a ſtrong and penetrating ſmell. The Indians diſtinguiſh two kinds of it, a finer and a coarſer; the finer is the produce of Borneo and Sumatra, is very rare, and never is ſent into Europe; the coarſer is the japoneſe kind, which is the common ſort, both in the Indies and in Europe.

The camphor, which we meet with in the ſhops, is alſo of two kinds, differing in regard to the degree of their purity, and diſtinguiſhed by the name of rough and refined camphor.

The tree, which produces camphor, is a ſpecies of bay-tree, every part of which abounds with camphor; but it is not collected from it in the manner of other reſins, but by a ſort of chemical proceſs. The natives of the places, where the trees grow, cut the wood and roots into ſmall pieces, and put them into large copper veſſels, which they cover with earthen heads, filled with ſtraw; they give a moderate fire under them, and the camphor is raiſed in form of a white downy matter, and retained among the ſtraw; when the proceſs is over, they ſhake it out of the ſtraw, and knead it into cakes. Theſe cakes are not very compact, but eaſily crumble to pieces; they are moderately heavy, of a greyiſh or duſky reddiſh white in colour, of a pungent ſmell, and acrid taſte, and are what we call rough camphor.

Refined camphor muſt be choſen of a perfectly clean white colour, very bright and pellucid, of the ſame ſmell and taſte with the rough, but more acrid and pungent.

It is ſo volatile, that merchants uſually incloſe it in lin-ſeed, that the viſcocity of that grain may keep its particles together. It has various uſes, as in fire-works, varniſh, &c. but its principal uſe is in medicine. There have been great diſputes among

among phyficians on the fubject of its virtues: fome have declared it to be cold, others hot; they argue for its being cold, from its abating venery, and being good againft inflammations of the eyes; and thofe, who account it hot, produce, in their favour, its acrid tafte, fragrant fmell, its inflammability, and the great fubtilety and volatility of its parts. At prefent, it is much ufed in medicine, both internally and externally. In cafes, both of the recent and inveterate lues venerea, this medicine, fkilfully prepared and applied, has been recommended to be ufed inftead of the common fudorific decoction of the woods. It may alfo be advantageoufly mixed along with the balfams, or fine turpentines, commonly ufed at the clofe of that diftemper. Some phyficians have recommended it in all inflammatory, putrid, peftilential, and even maniacal difeafes. It alfo promotes the menfes and urine, and is good in ulcerations of the kidneys and bladder.

Camphor may probably be extracted from all plants, which abound with an effential oil; yet it would differ with regard to the fmell, always retaining that of the tree from which it is extracted. The reader may fee, in the philofophical tranfactions, how Mr. Neuman, a chemift of Berlin, extracted camphor from thyme.

Artificial CAMPHOR is prepared with gum fandarach, and white vinegar diftilled, kept twenty days in horfe-dung, and afterwards expofed a month to the fun to dry, at the end of which, the camphor is found in form of the cruft of a white loaf. This is alfo called juniper-gum, and maftic.

CAMPHOR TREE, *camphora*, the tree from which the camphor of the fhops is prepared, being a fpecies of laurel. See the article LAURUS.

CAMPHORATED, in pharmacy, fomething impregnated with the virtues of camphor. See the article CAMPHOR.

CAMPHORATED JULEP. See JULEP.

CAMPHOROSMA, in botany, a genus of the tetrandria-monogynia clafs of plants, the calyx of which is a permanent perianthium of one tubulated leaf: there is no corolla: the pericarpium is a capfule of one cell, open at top, and covered with the cup; the feed is fingle, oval, compreffed, and fhining.

CAMPION, in botany, a name fometimes ufed for the lychnis. See LYCHNIS.

CAMPO-MAJOR, a town of Alentejo, in Portugal, about ten miles north of Elvas, and eleven north-weft of Badajox; weft long. 7° 25′, and north lat. 38° 45′.

CAMPREDON, a town of Catalonia, in Spain, about fifty miles north of Barcelona; eaft longitude 2°, and north latitude 42° 20.

CAMPUS, in antiquity, a fpace of ground in cities, left without any buildings, not unlike what we call fields or fquares.

CAMPUS MAII, in antient cuftoms, an anniverfary affembly of our anceftors, held on May-day, when they confederated together for defence of the kingdom againft all its enemies.

CAMPUS MARTIUS, among the Romans, a field, by the fide of the Tyber, where the youth exercifed themfelves in warlike exercifes. It was fo called, on account of a temple that ftood on it, confecrated to the god Mars. The confuls, Brutus and Collatinus made it the place for holding the comitia or affemblies of people, and, in after times, it was adorned with a great quantity of fine ftatues.

CAMUS, a perfon with a low flat nofe, hollowed in the middle.

The Tartars are great admirers of camus beauties. Rubruquis obferves, that the wife of the great Jenghis Kan, a celebrated beauty, had only two holes for a nofe.

CANADA, an extenfive tract of North-America, bounded by New Britain, and Hudfon's bay, on the north; by the river of St. Lawrence, the Iroquois, or five indian nations, the Huron and Illonois lakes, on the eaft and fouth; and by unknown lands, on the weft.

Its chief town is Quebec.

CANAL, *canalis*, in hydrography, a kind of artificial river, made for the conveniency of water-carriage. See SLUICE.

The Dutch, or if we can believe the relations of travellers, the Chinefe, who inhabit a country vaftly more extenfive than that of the Dutch, have fhewn the great advantages refulting from canals to a trading people. The antients often took great pains to make a communication, by water, from one place to another. Several of the kings of Egypt have endeavoured to join the Red-fea with the Mediterranean, by a canal opened from the Red-fea to one of the arms of the Nile, which difcharges itfelf into the Mediterranean; and the turkifh Solyman II. employed 150,000 men upon this bufinefs to no purpofe.

There are feveral large canals in France; that of Briare, begun under Henry IV. and finifhed under Lewis XIII, eftablifhes

a communication between the Loire and the Seine by the Loing. There are forty-two ſluices upon it. But the greateſt and moſt wonderful work of that kind, and at the ſame time one of the moſt uſeful, is, the junction of the two ſeas, by the canal of Languedoc, propoſed under Francis I. but not finiſhed till the time of Lewis XIV.

CANAL, in anatomy, a duct or paſſage through which any of the juices flow. As 1. the ſemicircular canals, diſtinguiſhed by the epithets of the largeſt, the middle one, and the leaſt, in the labyrinth of the ear, opening by five orifices in the veſtibule. 2. The canals of the auditory nerve, *viz.* the common and larger, in which there are little apertures into the labyrinth, and the proper, narrower, and longer terminating partly, by a little aperture, in the cavity of the cranium, and partly in the aquæduct of Fallopius. 3. The canalis arterioſus, between the pulmonary artery and the aorta of a fœtus, which ſerves for a peculiar circulation in the fœtus. 4. The naſal canal. 5. The canalis ſemilunaris. And, 6. The canalis venoſus. See the articles FOETUS, NOSE, *&c.*

CANAL *of the larmier*, the hollowed platfond or ſoffita of a cornice, which makes the pendent mouchette. See the articles LARMIER, and SOFFITA.

CANAL, *of the volute*, in the ionic capital, the face of the circumvolutions incloſed by a liſtel.

CANALICULATE, or CANALICULATED, ſomething hollowed in the manner of a canal; thus, we ſay, a canaliculated leaf, a canaliculated ſtalk.

CANARIES, iſlands, to the number of ſeven, ſituated in the atlantic ocean, between 12° 21′ of weſt longitude, and between 27° and 29° north latitude; the moſt eaſterly of them lying about one hundred and fifty miles from cape Non on the coaſt of Biledulgerid, in Africa.

CANARY, properly ſo called, is a conſiderable iſland, about one hundred and fifty miles in circumference; the chief town of which is Palma, from whence comes the excellent palm-ſack, and other rich wines.

It lies in 16° weſt longitude, and between 27° and 28° north latitude.

CANARY-BIRD, *paſſer canarienſis*, the engliſh name of the whitiſh fringilla, with the wings and tail greeniſh.

Canary-birds are natives of the canary-iſlands, whence they have got their name; but the melody of their voice is ſo ſweet, that there are few nations in Europe, which do not keep them in cages, where they very readily breed. See plate XXXVI. fig. 1.

CANCER, the CRAB, in zoology, the name of one of the diviſions of ſquillæ, comprehending all thoſe with ſhort-tails. See the article SQUILLA.

Crabs are a well-known ſhell-fiſh, of which there are a great many ſpecies; as the common large crab, the ſpider crab, the molucca-crab or king-crab, the little wooly crab, the prickly long-armed crab, *&c.* See plate XXXV. fig. 5. where n° 1 repreſents the common great crab, and n° 2. the ſpider-crab.

CANCER, in medicine, a roundiſh, unequal, hard, and livid tumour, generally ſeated in the glandulous parts of the body, ſuppoſed to be ſo called, becauſe it appears at length, with turgid veins ſhooting out from it, ſo as to reſemble, as it is thought, the figure of a crab-fiſh; or, as others ſay, becauſe, like that fiſh, where it has once got, it is ſcarce poſſible to drive it away.

Cancerous, or ſchirrous tumours, often appear ſpontaneouſly, without any evident cauſe, and ſeem peculiar to certain conſtitutions; at other times, they may be accidental, or proceed from ſharp, corroſive, or other coagulating juices in the body, errors in the non-naturals; a ſtoppage in the neceſſary evacuations, contuſion, ſtagnation, or coagulation of milk in the breaſts, *&c.*

The cancer is allowed to be the moſt terrible evil that befals the body; it is uſually cured, while yet a ſmall tumour of the bigneſs of a nut, or, at moſt, a ſmall egg, by extirpation. When it ſeizes the breaſt, or is burſt into an ulcer, amputation takes place. It begins without any pain, and appears, at firſt, like a chicory-pea, but grows apace, and becomes very painful. The tumour ariſes generally on the lax, glandulous parts, as the breaſts and emunctories: the reaſon of its appearing in the breaſts, more than in other parts, is their being full of glands, with lymphatics and blood-veſſels among them: the ſmalleſt contuſion, compreſſion, or punction extravaſates thoſe liquors, which grow, by degrees, acrimonious from the cancer.

The cancer is found in other ſoft ſpungy parts of the body; and there have been ſome found in the gums, belly, neck of the matrix, ureters, lips, noſe, cheeks, abdomen, penis, thighs, *&c.*

A cancer, ariſing on the leg, is called a

lupus;

lapus; on the face and nose, a noli me tangere.

Cancers are divided, according to their several stages, into occult and open or ulcerated. Occult cancers are those not arrived at their state, or not yet burst: ulcerated cancers are known by their roughness and fullness of holes, through which ouzes a filthy, stinking, glutinous matter, frequently yellowish; by their pungent, pains, which resembles the pricking of pins; by their blackness; the swelling of the lips of the ulcer, and the veins about it, which are black, tumid, and varicose: in a cancer of the breast, the adjacent flesh is sometimes so consumed, that one may see the cavity of the thorax; it occasions a slow fever, a loathing, oftentimes a faintness, sometimes a dropsy, and lastly death. Some cancerous tumours are moveable, others fixed; some inflamed, others palish. In their beginning, they are sometimes no bigger than a pea, but frequently increase gradually to the size of a wall-nut, egg, &c. sometimes also their growth is sudden, and at others slow, so as to continue on the increase many years together.

All cancers are dangerous, and seldom give way to the use of evacuating medicines: they also prove more difficult to cure, according to their size, the nature and office of the part they affect, the age of the patient, &c. Some occult cancers, particularly those which happen in the breasts of women, may remain harmless to the body for several years, and without ulcerating; though, upon any external injury, they may afterwards increase, break, and soon prove mortal. In this case, every thing, that soon raises the velocity of the blood, should be carefully avoided. It is pretty much the present fashion, not to meddle with the cure of cancers, whilst occult; but only endeavour to keep them sweet, by the common dressings, when they are ulcerated. Others, however, treat them in the manner following:

If the patient, afflicted with a small, recent, and occult cancer, be at all plethoric, they generally order phlebotomy; afterwards, if there be any hopes of palliating the case, lenient purgatives to be repeated occasionally: issues also have their use, and may contribute to prevent the farther growth of a recent cancer; a due regimen being carefully observed, whilst they are running.

Sometimes a cancer happens in the eye. This case, if it degenerates into an ulcer, is extremely dangerous, and the cure very uncertain, especially if it seems to happen spontaneously, is of long standing, or the patient in years: if the tumour is recent, it may be attempted to be discussed; but if it increases, so as to endanger the life of the patient, it must either be consumed with caustics, or, if possible, totally extirpated. When the whole ball of the eye is grown cancerous, it has been entirely taken out of its cavity, without preventing the disorder from being mortal.

CANCER, in astronomy, one of the twelve signs of the Zodiac, represented on the globe in the form of a crab, and thus marked (♋) in books.

Ptolemy makes it contain only thirteen stars, Tycho Brahe fifteen, Bayer and Hevelius twenty-nine, and Flamstead no less than seventy-one.

It is the fourth sign, reckoning from aries, and gives name to one of the quadrants of the ecliptic.

Tropic of CANCER, in astronomy, a lesser circle of the sphere parallel to the equator, and passing through the beginning of the sign cancer.

CANCHERIZANTE, or CANCHERIZATO, in the italian music, a term signifying a piece of music that begins at the end, being the retrogade motion from the end of a song, &c. to the beginning.

CANDAHOR, the capital of a territory of the same name, subject to Persia: east longitude 67°, and north latitude 33°.

CANDIA, the modern name of Crete, an island situated in the Mediterranean sea, between 22° and 27° east longitude, and between 35° and 36° north latitude.

There is no river of any consequence in the whole island, which is watered by a multitude of rivulets; whereof Lethe is one. Here too is mount Ida, so much celebrated in the writings of the antients.

CANDIA or MUTIUM, is the capital of the above island, situated on its northern coast, in 25° east longitude, and 35° 30′ north latitude.

CANDIDATE, a person who aspires to some public office.

In the roman commonwealth, they were obliged to wear a white gown, during the two years of their soliciting for a place. This garment, according to Plutarch, they wore without any other cloaths, that the people might not suspect they concealed money for purchasing

votes; and alſo, that they might the more eaſily ſhow to the people, the ſcars of thoſe wounds they had received in fighting for the defence of the commonwealth.

CANDIDATI Milites, an order of ſoldiers, among the Romans, who ſerved as the emperor's body-guards, to defend him in battle. They were the talleſt and the ſtrongeſt of the whole troops, and moſt proper to inſpire terror. They were called candidati, becauſe cloathed in white, either that they might be more conſpicuous, or becauſe they were conſidered in the way of preferment.

CANDISH, a province of the hither India, bounded by Chitor and Malva, on the north; by Orixa, on the eaſt; by Decan, on the ſouth; and by Guzurat, on the weſt: it is ſubject to the mogul.

CANDLE, a ſmall taper of tallow, wax, or ſperma ceti; the wick of which is commonly of ſeveral threads of cotton, ſpun and twiſted together.

A tallow-candle, to be good, muſt be half ſheeps, and half bullocks tallow, for hogs tallow makes the candle gutter, and always gives an offenſive ſmell, with a thick black ſmoke. The wick ought to be pure, ſufficiently dry, and properly twiſted, otherwiſe the candle will emit an unconſtant vibratory flame, which is both prejudicial to the eyes, and inſufficient for the diſtinct illumination of objects.

There are two ſorts of tallow-candles; the one dipped, the other moulded; the former are the common candles; the others are the invention of the ſieur le Brege, at Paris.

As to the method of making candles, in general; after the tallow has been weighed, and mixed in the due proportions, it is cut into very ſmall pieces, that it may melt the ſooner; for the tallow in lumps, as it comes from the butchers would be in danger of burning or turning black, if it were left too long over the fire. Being perfectly melted and ſkimmed, they pour a certain quantity of water into it, proportionable to the quantity of tallow. This ſerves to precipitate, to the bottom of the veſſel, the impurities of the tallow, which may have eſcaped the ſkimmer. No water, however, muſt be thrown into the tallow, deſigned for the three firſt dips, becauſe the wick, being ſtill quite dry, would imbibe the water, which makes the candles crackle in burning, and renders them of bad uſe. The tallow, thus melted, is poured into a tub, through a coarſe ſieve of horſe-hair, to purify it ſtill more, and may be uſed after having ſtood three hours. It will continue fit for uſe twenty-four hours in ſummer, and fifteen in winter.

The wicks are made of ſpun cotton, which the tallow-chandlers buy in ſkains, and which they wind up into bottoms or clues. Whence they are cut out, with an inſtrument contrived on purpoſe, into pieces of the length of the candle required; then put on the ſtick or broches, or elſe placed in the moulds, as the candles are intended to be either dipped or moulded.

Wax candles are made of a cotton or flaxen wick, ſlightly twiſted, and covered with white or yellow wax. Of theſe, there are ſeveral kinds; ſome of a conical figure, uſed to illumine churches, and in proceſſions, funeral ceremonies, &c. See the article Taper.

Others of a cylindrical form, uſed on ordinary occaſions.

The firſt are either made with a ladle or the hand.

To make wax-candles with the ladle. The wicks being prepared, a dozen of them are tied by the neck, at equal diſtances, round an iron circle, ſuſpended directly over a large baſon of copper tinned, and full of melted wax: a large ladle full of this wax is poured gently on the tops of the wicks one after another, and this operation continued till the candle arrive at its deſtined bigneſs, with this precaution, that the three firſt ladles be poured on at the top of the wick; the fourth at the height of $\frac{3}{4}$; the fifth at $\frac{1}{2}$; and the ſixth at $\frac{1}{4}$; in order to give the candle its pyramidal form. Then the candles are taken down, kept warm, and rolled and ſmoothed upon a walnut-tree table, with a long ſquare inſtrument of box, ſmooth at the bottom.

As to the manner of making wax-candles by the hand, they begin to ſoften the wax, by working it ſeveral times in hot water, contained in a narrow, but deep caldron. A piece of the wax is then taken out, and diſpoſed by little and little, around the wick, which is hung on a hook in the wall, by the extremity oppoſite to the neck; ſo that they begin with the big end, diminiſhing ſtill as they deſcend towards the neck. In other reſpects, the method is nearly the ſame as in the former caſe. However, it muſt be obſerved, that in the former caſe, water is always uſed to moiſten

ften the feveral inftruments, to prevent the wax from fticking ; and in the latter, oil of olives, or lard, for the hands, *&c.* The cylindrical wax-candles are either made, as the former, with a ladle, or drawn. Wax-candles drawn, are fo called, becaufe actually drawn in the manner of wire, by means of two large rollers of wood, turned by a handle, which turning backwards and forwards feveral times, pafs the wick through melted wax contained in a brafs bafon, and at the fame time through the holes of an inftrument like that ufed for drawing wire faftened at one fide of the bafon.

Makers of candles are not to ufe melting houfes, without due entry thereof at the excife-office, on pain of 100 l. And to give notice of making candles to the excife-officer for the duties, and of the number, *&c.* or fhall forfeit 50 l. Removing the candles before weighed by the officer, or mixing them with others, is likewife liable to penalties.

CANDLE is alfo a term in medicine, and is reckoned among the inftruments of furgery. Thus the candela fumalis, or the candela pro fuffitu odorata, is a mafs of an oblong form, confifting of odoriferous powders, mixed up with a third, or more, of the charcoal of willow, or lime-tree, and reduced to a proper confiftence with a mucilage of gum-tragacanth, ladanum, or turpentine. It is intended to excite a grateful fmell without any flame, to correct the air, to fortify the brain, and to excite the fpirits.

Medicated CANDLE, or BOUGIE, in furgery, a fmall ftick of wax in form of a candle, which furgeons introduce into the urethra, either to dilate it and keep it open, or to confume carnofities. There are two forts of thefe candles, the one fimple, and the other compound. The fimple are made of wax, of cat-gut, or even of lead ; and the intention of them is to keep the canal of the urethra properly diftended. Their thicknefs, therefore, fhould be proportioned to the diameter of that canal. The compound bougies are loaded with fome medicine capable of producing a fuppuration, or of deftroying carnofities and excrefcences in the urethra.

CANDLE. Sale or auction by inch of candle, is when a fmall piece of candle being lighted, the byftanders are allowed to bid for the merchandize that is felling ; but the moment the candle is out, the commodity is adjudged to the laft bidder.

There is alfo an excommunication by inch of candle, when the finner is allowed to come to repentance while a lighted candle continues burning ; but after it is confumed, he remains excommunicated to all intents and purpofes.

CANDLE-BERRY-TREE, in botany, the englifh name of a fpecies of myrica, called alfo the virginian myrtle, as being common in that country.

From the berries of this tree, a green kind of wax is drawn by boiling, whereof they make candles ; and hence is derived the name candle-berry-tree.

CANDLEMAS, a feaft of the church, held on the fecond day of February, in honour of the purification of the virgin Mary. It is borrowed from the practice of the antient chriftians, who on that day ufed abundance of lights both in their churches and proceffions, in memory, as is fuppofed, of our Saviour's being on that day, declared by Simeon, " to be a light to lighten the Gentiles." In imitation of this cuftom, the roman catholics, on this day, confecrate all the tapers and candles which they ufe in their churches during the whole year. At Rome, the pope performs that ceremony himfelf, and diftributes wax-candles to the cardinals and others, who carry them in proceffion thro' the great hall of the pope's palace. This ceremony was prohibited in England, by an order of council in 1548.

CANDLESTICK, an inftrument to hold a candle, made in different forms, and of all forts of matter.

The golden candleftick was one of the facred utenfils made by Mofes to be placed in the jewifh tabernacle. It was made of hammered gold, a talent in weight. It confifted of feven branches, fupported by a bafe or foot. Thefe branches were adorned at equal diftances with fix flowers like lilies, and with as many bowls and knobs placed alternately. Upon the ftock and fix branches of the candleftick, were the golden lamps, which were immoveable, wherein were put oil and cotton.

Thefe feven lamps were lighted every evening, and extinguifhed every morning. The lamps had their tongs or fnuffers to draw the cotton in or out, and difhes underneath them to receive the fparks and droppings of the oil. This candleftick was placed in the antichamber of

of the fanƈuary, on the fouth fide, and ferved to illuminate the altar of perfume, and the table of the fhew-bread. When Solomon had built the temple of the Lord, he placed in it ten golden candlefticks, of the fame form as that defcribed by Mofes, five on the north, and five on the fouth fide of the fanƈuary. But after the babylonifh captivity, the golden candleftick was again placed in the temple, as it had been before in the tabernacle by Mofes. This facred utenfil, upon the deftruƈion of the temple by the Romans, was lodged in the temple of peace, built by Vefpafian; and the reprefentation of it is ftill to be feen on the triumphal arch at the foot of mount Palatine, on which Vefpafian's triumph is delineated.

Water-CANDLESTICK, a kind of fountain, the fpout of which is raifed upon a pedeftal in form of a large baluftrade, which carries a fmall bafon like a table or ftand, from which the water falls into a larger bafon, level with the alleys in a garden.

CANDY, in geography, the capital of the ifland of Ceylon, fituated in the middle of the ifland; eaft lon. 79°, north lat. 8°.

CANDY, or *fugar*-CANDY, a preparation of fugar, made by melting and cryftalizing it fix or feven times over, to render it hard and tranfparent. It is of three kinds, white, yellow, and red. The white comes from the loaf-fugar, the yellow from the caffonado, and the red from the mufcovado. See SUGAR.

Sugar-candy is moft proper in colds, becaufe it melts flowly, and thereby gives time to the faliva to mix with it, and thus to blunt the acrimony of the phlegm.

CANDYING, in pharmacy, the aƈ of preferving fimples in fubftance, by boiling them in fugar.

The performance of this originally belonged to the apothecaries, but is now become a part of the bufinefs of a confeƈioner.

CANE, *arundo*, in botany. See the article ARUNDO.

CANE denotes alfo a walking-ftick. It is cuftomary to adorn it with a head of gold, filver, agate, &c. Some are without knots, and very fmooth and even; others are full of knots, about two inches diftant from each other. Thefe laft have very little elafticity, and will not bend fo well as the others.

Canes of Bengal, are the moft beautiful which the Europeans bring into Europe. Some of them are fo fine, that people work them into veffels or bowls, which being varnifhed over in the infide with black or yellow lacca, will hold liquors as well as glafs or china-ware does, and the Indians ufe them for that purpofe.

CANE, *canna*, is alfo the name of a long meafure, which differs acccording to the feveral countries where it is ufed.

At Naples, the cane is equal to 7 feet 3 1/3 inches englifh meafure: the cane of Tholoufe, and the upper Languedoc, is equal to the varre of Arragon, and contains 5 feet 8 2/3 inches: at Montpelier, Provence, Dauphiné, and the lower Languedoc, to 6 englifh feet 5 1/2 inches.

CANEA, a fea-port town on the north fide of Candia, efteemed the fecond on the ifland. It is a pretty good harbour, but the fortifications are out of repair: eaft longitude 24°, north latitude 35° 36′.

CANEPHORÆ, in grecian antiquity, virgins who when they became marriageable, prefented certain bafkets full of little curiofities to Diana, in order to get leave to depart out of her train, and change their ftate of life. See the next article.

CANEPHORIA, in grecian antiquity, a ceremony which made part of a feaft celebrated by the athenian virgins, on the eve of their marriage day. See the laft article.

At Athens, the canephoria confifted in this: the maid, conduƈed by her father and mother, went to the temple of Minerva, carrying with her a bafket full of prefents, to engage the goddefs to make the marriage ftate happy; or, as the fcholiaft of Theocritus has it, the bafket was intended as a kind of honourable amends made to that goddefs, the proteƈrix of virginity, for abandoning her party; or a ceremony to appeafe her wrath. Suidas calls it a feftival in honour of Diana. See CANEPHORÆ.

CANEPHORIA is alfo the name of a feftival of Bacchus, celebrated particularly by the Athenians, on which the young maids carried golden bafkets full of fruit; which bafkets were covered, to conceal the myftery from the uninitiated.

CANETO, a fortified town of the dutchy of Mantua, fituated on the Oglio, about twelve miles fouth-weft of Mantua; eaft longitude 10° 50′, north latitude 45°.

CANICULA, or CANICULUS, in aftronomy, the fame as the canis minor. See the article CANIS MINOR.

It is also a name given to one of the stars of the constellation canis major, called the dog-star, and by the Greeks, sirius.

CANICULAR DAYS, commonly called dog-days, a certain number of days preceding and ensuing the heliacal rising of the canicula, or the dog-star, in the morning. The Ethiopians and Egyptians began their year at the rising of the dog-star, reckoning to its rise again the next year, which is called the annus canarius. The Romans supposed it to be the cause of the sultry weather usually felt in the dog-days; and therefore sacrificed a brown dog every year at its rising, to appease its wrath.

The dog-days begin towards the end of July, and end the beginning of September.

CANINE, whatever partakes of, or has any relation with the nature of a dog. Thus,

CANINE-TEETH, in anatomy, are two sharp-edged teeth in each jaw; one on each side, placed between the incisores and molares. See the article TOOTH.

CANINE MUSCLES, a pair of muscles common to both lips. They arise from the hollow on each side under the os jugalis, in the os maxillare, and are inserted into the angle of the lips.

CANINE APPETITE. See BULIMY.

CANIS, DOG, in zoology, the name of a comprehensive genus of quadrupeds, of the order of the feræ.

They are distinguished from the other genera of this order, by the number of their teats, or paps, which in the dog-kind are ten, four on the breast, and six on the belly: add to this, that their feet are adapted to running; they have five toes on the fore ones, and four on the hinder.

Under this genus are comprehended, 1. The common dog, or canis with a crooked tail, bending backwards. 2. The wolf, or canis with a straight tail, shorter than his body. 3. The fox, or canis with a straight tail, equal in length to his body. 4. The hyæna, or lupus marinus, with the hair of its neck erect, and considerably long. See DOG, *&c.*

CANIS MAJOR, in astronomy, a constellation of the southern hemisphere, consisting of eighteen stars, according to Ptolemy; of thirteen, according to Tycho; and thirty-two in the britannic catalogue.

CANIS MINOR, CANICULUS, or CANICULA, in astronomy, a constellation of the northern hemisphere. In Ptolemy's catalogue, the canis minor comprehends two stars; in that of Tycho, five; and in the britannic catalogue, fifteen.

CANKER, a speck made by a sharp humour, which gnaws the flesh almost like a caustic; very common in the mouths of children.

CANKER, a disease incident to trees, proceeding chiefly from the nature of the soil. It makes the bark rot and fall. If the canker be in a bough, cut it off; a large bough should be cut off at some distance from the tree; and a small one close to it: but for over-hot strong ground, the mould is to be cooled about the roots with pond-mud, and cow-dung.

CANNA, in botany, a genus of plants of the monandria-monogynia class, the flower of which is monopetalous, and divided into six parts. The laciniæ are lanceolated, cohering at the bases, of which the three exterior ones are erect; the three interior ones are longer than these, and two of them are erect, and one reflex. The fruit is a roundish, scabrous, coronated, trisulcated capsule, with three cells and three valves, containing some globose seeds. See CANNACORUS.

CANNABIS, HEMP, in botany, a genus of the dioecia-pentandria class of plants. There is no corolla, but the calyx of the male flower is divided into five parts; and that of the female, is composed of a single leaf, acuminated and opening sideways. The pericarpium is very small, and the seed is a globose, depressed, bivalvular nut.

CANNACORUS, in botany, the name used by Tournefort for the canna of Linnæus. See plate XXXVI. fig. 2.

CANNEL-COAL, in the materia medica, a substance which has a long time, tho' with very little reason, been confounded, both by authors and druggists, with jet. It is dug up in many parts of England in great abundance, particularly in Lancashire, where it is burnt as common fuel. It is worked into toys and utensils of various kinds, under the name of jet. In medicine, it has the credit of being good in the colic, and of being, in general, an emollient and discutient: but the present practice takes no notice of it.

CANNIBAL, or CANIBAL, is used by modern writers for an anthropophagus, or man-eater, more especially of the West-Indies. See ANTHROPOPHAGY.

CANNON, in the military art, an engine or fire-arm for throwing iron, lead, or stone bullets by force of gun-powder. Cannons at first were called bombardæ, from the noise they made. They had likewise the name of culverin, basilisk, *&c.*

&c. from the beasts that were represented upon them; and the Spaniards, from devotion, gave them the name of saints; witness the twelve apostles which Charles V. ordered to be cast at Malaga, for his expedition to Tunis.

The most remarkable parts about a cannon, are the cascabel, mouldings, base-ring, touch-hole, vent-ring, reinforced-ring, trunions, dolphins, trunion-ring, cornish-ring, neck, musle, face, and chace or cylinder. See each of these in its proper place.

The metal of which cannons are composed, is either iron, or which is more usual, a mixture of copper, tin, and brass; the tin being added to the copper, to make the metal more dense and compact; so that the better and heavier the copper is, the less tin is required. Some to an hundred pounds of copper, add ten of tin, and eight of brass; others ten of tin, five of brass, and ten of lead. The sieur Bereau pretends, that when old pieces of metal are used, the founder ought to add to one hundred weight of that metal, twenty-five pounds of good copper, and five pounds of tin. Braudius describes a method of making cannon of leather, and it is certain the Swedes made use of such in the long war in the last century; but these burst too easily to have much effect. With regard to iron cannon, they are not capable of so much resistance as those of brass; but as they are less expensive, they are often used on board of ships, and also in several fortified places.

For the method of casting cannon, see the article FOUNDERY.

Cannons are distinguished by the diameters of the balls they carry. The rule for their length is, that it be such as that the whole charge of powder be on fire, before the ball quit the piece. If it be too long, the quantity of air to be drawn out before the ball, will give too much resistance to the impulse; and that impulse ceasing, the friction of the ball against the surface of the piece, will take off from the motion.

In former days, cannon were made much longer than they are now; but experience has taught us, that a ball moves with a greater impetus thro' a less space than a greater: and accordingly it is found, that an iron ball of 48 pounds weight, goes farther from a short cannon, than another ball of 96 pound out of a longer piece; whereas, in other respects, it is certain, the larger the bore and ball, the greater the range. But for the range of a cannon. See the article PROJECTILE.

It is found too, by experience, that of two cannons of equal bore, but different lengths, the longer requires a greater charge of powder than the shorter. The ordinary charge of a cannon is, for the weight of its gun-powder to be half that of its ball.

We shall here subjoin a table exhibiting the names of the several cannon, their length, their weight, and that of their ball, as they obtain among us.

Names of cannon.	wt. of an iron ball.		weight of the cannon.	length of the cannon.	
	lb.	oz.	lb.	f.	inch.
Cannon royal	48	0	8000	12	0
Demi cannon large	36	0	6000	12	0
Demi cannon ordinary	32	0	5600	12	0
Demi cannon least	30	0	5400	11	0
Culverin largest	20	0	4800	12	0
Culverin ordinary	17	5	4500	12	0
Culverin least	15	0	4000	11	0
Demi culverin ordinary	10	11	2700	11	0
Demi culverin least	9	0	2000	10	0
Saker ordinary	6	0	1500	10	0
Saker least	4	12	1400	8	0
Minion largest	3	12	1000	8	0
Minion ordinary	3	4	800	7	0
Falcon	2	8	750	6	0
Falconet	1	5	400	5	6
Rabinet	0	8	300	5	6
Base	0	5	200	4	6

Cannons are likewife diftinguifhed according to the diameter of their mouth, or calibre. This calibre is divided, in confequence of an order from the king of France, into thirty-fix parts, in order to determine by thefe parts the dimenfions of the different moulds for cannon. We hope the reader, then, will not be diffatisfied to find an account of the dimenfions of the feveral parts of cannon of five different calibres, as they are regulated by that order of the king of France, on Oct. 7, 1732, in the following table:

Pieces of cannon	of 24			of 16			of 12			of 8			of 4		
	feet.	inch.	lines.	feet.	inch.	lines.	feet.	inch.	lines.	feet.	inch.	lines.	feet.	inch.	lines.
Length of the bore	9	6		9	2		8	8		7	10		6	6	
Depth of the chamber	2	6			1	10									
Thicknefs of metal at breech		5	5		4	9		4	4		3	9		3	
Length of the cafcabel		10	11		9	6		8	8		7	7		6	
Diameter of the trunions		5	5		4	9		4	4		3	10		3	
Projection of the trunions		5	5		4	9		4	4		3	10		3	
Calibre of the piece		5	8		4	11		4	6		3	11		3	2
Diameter of the ball		5	6		4	9		4	4		3	9		3	
Length of the whole piece	11			10	6		10			8	10		7	3	
Weight of the piece		5400			4200			3200			2100			1150 lb.	

CANNON, with letter-founders and printers, the largeft fize of the letters they ufe. See the article LETTER.

CANNONEER, or CANNONIER, the fame with gunner. See the articles GUNNER and GUNNERY.

CANNOW, CANOW, or CANOE. See the article CANOE.

CANNULA, in furgery, a tube made of different metals, principally of filver and lead, but fometimes of iron.

They are introduced into hollow ulcers, in order to facilitate a difcharge of pus or any other fubftance; or into wounds, either accidental or artificial, of the large cavities, as the thorax or abdomen: they are ufed in the operation of bronchotomy, and by fome after cutting for the ftone, as a drain for the urine.

Other cannulas are ufed for introducing cauteries, either actual or potential, in hollow parts, in order to guard the parts adjacent to that to be cauterifed, from injury. They are of various figures; fome being oval, fome round, and others crooked.

CANOBIA, a town of the dutchy of Milan, fituated on the weft fide of the lake Maggiore, about thirty miles weft of Como; eaft longitude 8° 50′, north latitude 46°.

CANOE, a fmall boat, made of the trunk of a tree, bored hollow; and fometimes alfo of pieces of bark, fewed together.

It is ufed by the natives of America to go a fifhing in the fea, or upon fome other expedition, either by fea, or upon the rivers and lakes. The negroes in Guinea, and even many in the Eaft-Indies, ufe alfo canoes. Two men are fufficient to manage a canoe; and when the falls of the rivers oblige them to land, they carry the canoe and merchandize on their fhoulders, till they come above or below the fall, according as they go up or down the rivers or lakes: the largeft canoe, either made of the barks or trunks of trees, rarely holds above four perfons. The canoes of the favages about Davis's ftraits, are more extraordinary; they are feven or eight feet long, and two broad, compofed of fmall fticks, of a very pliant wood, in the form of a hurdle, and covered with feal-fkins: each canoe holds but one man, who fits in a hole made in the middle of it.

CANON, commonly called prebendary, a perfon who poffeffes a prebend, or revenue allotted for the performance of divine fervice in a cathedral or collegiate church.

Originally, canons were only priefts, or inferior ecclefiaftics, who lived in community, refiding near the cathedral church to affift the bifhop, depending intirely on his will, fupported by the revenues of his bifhopric, and living in the fame houfe as his domeftics or counfellors, &c. By degrees, thefe communities of priefts, fhaking off their dependance, formed feparate bodies; in time they freed them-

 felves

ſelves from their rules, and at length ceaſed to live in a community. It is maintained that the colleges of canons, which have been introduced into each cathedral, were not in the antient church, but are of modern appointment.

As the canons have degenerated from their firſt inſtitution, people have frequently made merry at their coſt; not contented with quoting them as ſo many models of indolence and ſenſuality, but their corpulency is even become proverbial.

In the romiſh church, when a perſon is promoted to the office of a canon, he muſt be preſented in a very ceremonious manner to the chapter, who aſſemble in the cathedral, in order to receive him: he kiſſes the altar thrice, after which he goes and takes his place in the choir; he afterwards makes his confeſſion of faith aloud, and ſwears to obſerve the ordinances of the church, and his holineſs the pope: being thus ſolemnly inſtalled, he is impowered to aſſiſt at the chapter, to chaunt the office of the choir, *&c.*

Canons are of various kinds, as,

Cardinal-Canons, thoſe attached, or, as the latins call it, *incardinati*, to a church, as a prieſt is to a pariſh.

Domicellory-Canons, young canons, who, not being in orders, had no right in any particular chapters.

Expectative-Canons were ſuch as, without having any revenue or prebend, had the titles and dignities of canons, a voice in the chapter, and a place in the choir, till ſuch time as a prebend ſhould fall.

Foreign-Canons, ſuch as did not officiate in the canonries to which they belonged. To theſe were oppoſed manſionary canons.

Regular-Canons, thoſe who ſtill live in community, and who, like religious, have to the practice of their rules, added the ſolemn profeſſion of vows.

Tertiary-Canon, a perſon who had only the third part of the revenues of the canonicate.

Canon, in an eccleſiaſtical ſenſe, a law, rule, or regulation of the policy and diſcipline of a church, made by councils either general, national, or provincial.

Canons *of the apoſtles*, a collection of eccleſiaſtical laws, which, tho' very antient, were not left us by the apoſtles. It is true, they were ſometimes called apoſtolic canons; but this means no more than that they were made by biſhops, who lived ſoon after the apoſtles, and were called apoſtolical men. They conſiſt of regulations, which agree with the diſcipline of the ſecond and third centuries: the Greeks generally count eighty-five, but the Latins receive only fifty, nor do they obſerve all theſe.

Canon *of maſs*, in the romiſh church, the name of a prayer which the prieſt reads low to himſelf, the people kneeling. In this part of the maſs, the prieſt particularly mentions ſome perſons for whom he is going to offer the ſacrifices, and prays to God for the redemption of their ſouls, the hopes of their ſalvation, *&c.*

Paſchal-Canon, a table of the moveable feaſts, ſhewing the day of Eaſter, and the other feaſts depending on it, for a cycle of nineteen years.

Canon *of ſcripture*, a catalogue or liſt of the inſpired writings, or ſuch books of the bible as are called canonical; becauſe they are in the number of thoſe books which are looked upon as ſacred, in oppoſition to thoſe which are either not acknowledged as divine books, or are rejected as heretical and ſpurious, and are called apocryphal. This canon may be conſidered as jewiſh and chriſtian, with reſpect to the ſacred writings acknowledged as ſuch by the Jews, and thoſe admitted by the Chriſtians. See the articles Bible and Inspiration.

Canon, in monaſtic orders, a book wherein the religious of every convent have a fair tranſcript of the rules of their order, frequently read among them, as their local ſtatutes.

Canon is alſo uſed for the catalogue of ſaints acknowledged and canonized in the romiſh church.

Canon, a japaneſe idol, who preſides over the waters and the fiſh.

This idol, according to the repreſentation of him, has four arms, is ſwallowed up by a fiſh as far as the middle, and is crowned with flowers. He has a ſceptre in one hand, a flower in another, and a ring in the third; the fourth is cloſed, and the arm extended.

Canon, in muſic, a ſhort compoſition of two or more parts, in which one leads, and the other follows: or it is a line of any length, ſhewing, by its diviſions, how muſical intervals are diſtinguiſhed, according to the ratios, or proportions, that the ſounds terminating the intervals, bear one to another, when conſidered according to their degree of being acute or grave.

Canone chiuro, or Canone in corpo, in

in music, a perpetual figure writ upon one line with some marks, to shew when the parts that imitate are to begin and end.

CANONE PARTITO, or RESOLUTO, when all the parts of a perpetual figure are writ either in partitions, or in separate parts, with the proper pauses that each is to observe.

CANON, in arithmetic, algebra, *&c.* is a rule to solve all things of the same nature with the present inquiry; thus, every last step of an equation in algebra, is such a canon; and, if turned into words, is a rule to solve all questions of the same nature with that proposed.

The tables of logarithms, artificial sines and tangents, are called likewise by the name of canon.

CANON-LAW, a collection of ecclesiastical laws, serving as the rule and measure of church-government.

The power of making laws was exercised by the church before the roman empire became christian. The canon-law that obtained throughout the west, till the twelfth century, was the collection of canons made by Dionysius Exiguus in 520, the capitularies of Charlemaign, and the decrees of the popes, from Sircius to Anastasius.

The canon-law, even when papal authority was at its height in England, was of no force when it was found to contradict the prerogative of the king, the laws, statutes, and customs of the realm, or the doctrine of the established church. The ecclesiastical jurisdiction of the see of Rome in England, was founded on the canon-law; and this created quarrels between kings and several archbishops and prelates, who adhered to the papal usurpation.

Besides the foreign canons, there were several laws and constitutions made here for the government of the church; but all these received their force from the royal assent: and if, at any time, the ecclesiastical courts did, by their sentence, endeavour to enforce obedience to such canons, the courts at common law, upon complaints made, would grant prohibitions. The authority vested in the church of England of making canons, was ascertained by a statute of Henry VIII. commonly called the act of the clergy's submission; by which they acknowledged, that the convocation had been always assembled by the king's writ; so that though the power of making canons resided in the clergy, met in convocation, their force was derived from the authority of the king's assenting to, and confirming them.

The old canons continued in force till the reign of James I. when the clergy being assembled in convocation, the king gave them leave to treat and consult upon canons, which they did, and presented them to the king, who gave them the royal assent: these were a collection out of the several preceding canons and injunctions. Some of these canons are now obsolete. In the reign of Charles I. several canons were passed by the clergy in convocation.

CANONESS, in the romish church, a woman who enjoys a prebend, affixed, by the foundation, to maids, without their being obliged to renounce the world, or make any vows.

CANONICAL, something belonging to, or partaking of the nature of a canon: thus we read of canonical obedience, which is that paid by the inferior clergy to their superiors, agreeably to the canon-law. See the article CANON-LAW.

We also meet with canonical life, canonical hours, *&c.* used much in the same sense. See the article CANON.

CANONIST, a person skilled in, or who makes profession of the canon-law. See the article CANON-LAW.

CANONIZATION, a ceremony in the romish church, by which persons deceased are ranked in the catalogue of the saints. It succeeds beatification. See the article BEATIFICATION.

Before a beatified person is canonized, the qualifications of the candidate are strictly examined into, in some consistories held for that purpose; after which one of the consistorial advocates, in the presence of the pope and cardinals, makes the panegyric of the person who is to be proclaimed a saint, and gives a particular detail of his life and miracles: which done, the holy father decrees his canonization, and appoints the day.

On the day of canonization, the pope officiates in white, and their eminences are dressed in the same colour. St. Peter's church is hung with rich tapestry, upon which the arms of the pope, and of the prince or state requiring the canonization, are embroidered in gold and silver. An infinite number of lights blaze all round the church, which is

crowded with pious ſouls, who wait, with a devote impatience, till the new ſaint has made his public entry, as it were, into paradiſe, that they may offer up their petitions to him, without danger of being rejected.

The following maxim, with regard to canonization is now obſerved, tho' it has not been followed above a century, *viz.* not to enter into the inquiries prior to canonization, till fifty years, at leaſt, after the death of the perſon to be canonized. By the ceremony of canonization, it appears that this rite of the modern Romans, has ſomething in it very like the apotheoſis or deification of the antient Romans, and in all probability owes its riſe to it; at leaſt, ſeveral ceremonies of the ſame nature are conſpicuous in both.

CANONOR, a town on the Malabar-coaſt, in the hither India: eaſt long. 75°, north lat. 10°.

Here the Dutch have a fort and factory, which they took from the Portugueſe in 1663.

CANONRY, the benefice filled by a canon. It differs from a prebend, in that the prebend may ſubſiſt without the canonicate; whereas the canonicate is inſeparable from the prebend: again, the rights of ſuffrages, and other privileges, are annexed to the canonicate, and not to the prebend.

CANOPUS, in aſtronomy, a ſtar of the firſt magnitude in the rudder of Argo, a conſtellation of the ſouthern hemiſphere. See the article ARGO.

CANOPY, a magnificent covering, raiſed above an altar, throne, chair of ſtate, pulpit, and the like.

The word canopy comes from the Greek κωνωπειον, a net ſpread over beds to keep off the gnats, from κωνωψ, a gnat.

CANSO, a port-town of Nova-Scotia, or New Scotland, in North-America, ſituated on a narrow ſtrait, which ſeparates Nova-Scotia from the iſland of Cape-Breton: weſt longitude 62°, north latitude 46°.

CANT, or CANTING-LANGUAGE, that made up of words and phraſes not authorized by the eſtabliſhed idiom, but peculiar to certain perſons and profeſſions. The introduction of cant-terms into the engliſh language, is attributed by ſome to the natural taciturnity of the people, which makes them curtail long words; as *phyz* for phyſiognomy, *mobb* for mobility, *&c.*

CANT is alſo a term ſometimes uſed for a ſale by auction, being probably derived from the latin *quantum*.

CANT, among carpenters. When a piece of timber comes the wrong way in their work, they ſay cant it, that is, turn it over.

CANTALIVERS, in architecture, pieces of wood framed into the front or other ſides of a houſe, to ſuſpend the mouldings and eves over it.

Theſe ſeem, in effect, to be the ſame with modillions, except that the former are plain, and the latter carved: they are both a kind of cartouches, ſet at equal diſtances, under the corona of the cornice of a building.

CANTAR, or CANTARO, in commerce, a weight uſed in Italy, particularly at Leghorn, to weigh ſome ſorts of merchandizes.

There are three ſorts of cantari, or quintals, one weighs 150 pounds, the other 151, and the third 160: the firſt ſerves to weigh alum and cheeſe, the ſecond is for ſugar, and the third for wool and cod fiſh.

CANTATA, in muſic, a ſong or compoſition, intermixed with recitatives, airs, and different movements, chiefly intended for a ſingle voice, with a thorough baſs, though ſometimes for other inſtruments. When it is intended for the church, it is called *cantata morali ò ſpirituali*: but when the ſubject is on love, *cantata amoroſe*, &c.

The cantata, when performed with judgment, has ſomething in it very agreeable; the variety of the movements not cloging the ear, like other compoſitions. It was firſt uſed in Italy, then in France, whence it paſſed to us.

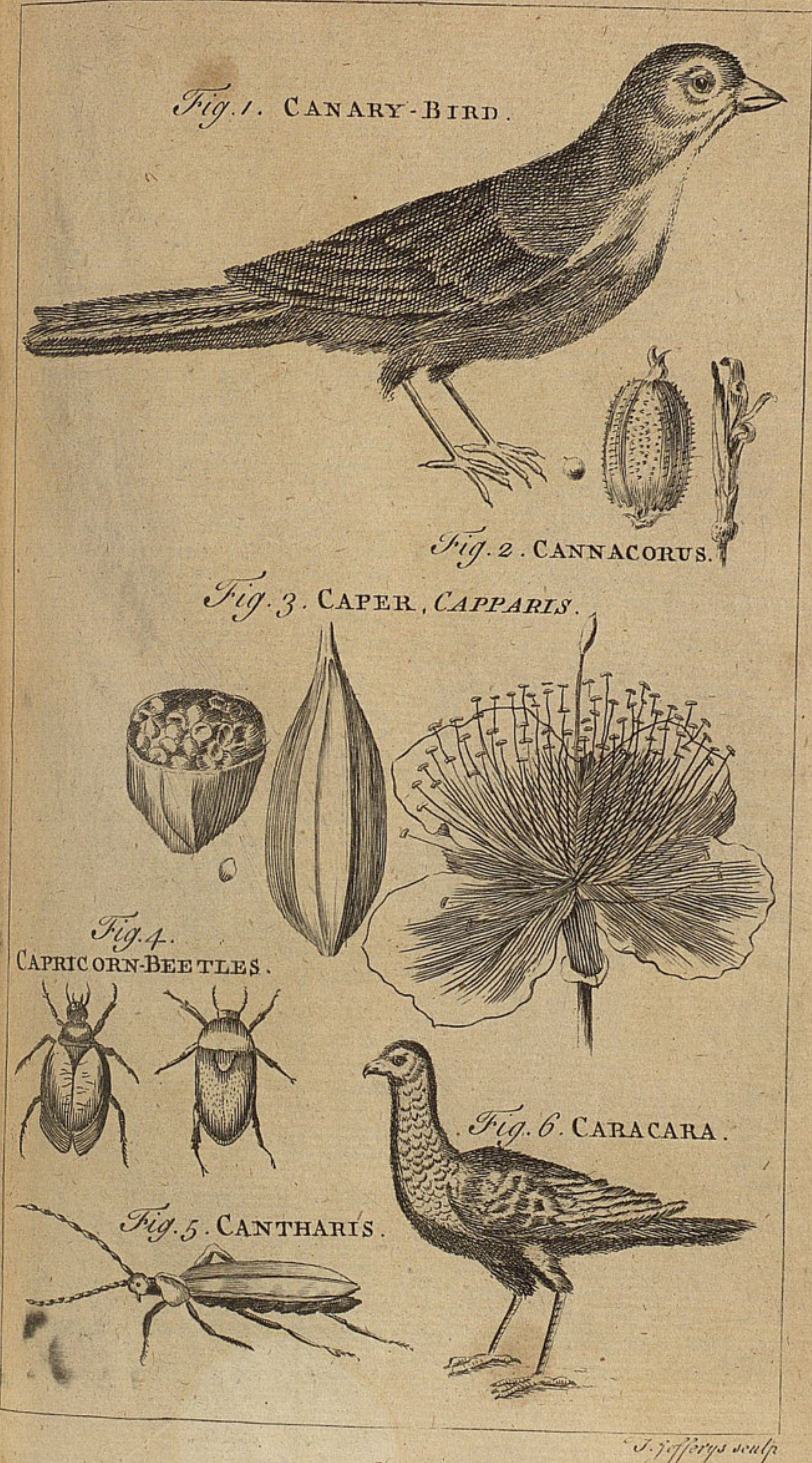
CANTEL, *cantellum*, the ſmall moiety uſually given over and above the preciſe meaſure.

CANTERBURY, the capital city of Kent, fifty-five miles eaſt of London, and ſixteen north-weſt of Dover: eaſt long. 1° 15′ north lat. 51° 16′.

It is a county of itſelf, and the ſee of an archbiſhop, who is primate and metropolitan of all England. It is a large, populous, and trading city: has a good ſilk manufactory, and ſends two members to parliament.

CANTERBURY-BELL, in botany, the name by which ſome call the campanula, or bell-flower.

CANTHARIS, in zoology, a genus of four-winged flies, with ſetaceous antennæ; the exterior wings of which are flexile;



T. Jefferys sculp.

flexile, the thorax somewhat flatted, and the sides of the abdomen plicated.

The cantharides, tho' usually called spanish flies with us, are properly of the scarabæus, or beetle-kind: the creature is usually about half an inch in length, and a third of an inch, or somewhat less, in breadth: it is of a fine shining and beautiful colour, on the upper side a bright green, with a mixture or shade of gold-yellow. See plate XXXVI. fig. 5. where one of them is represented.

From the eggs of the parent cantharis, are hatched a small kind of worms, of a dusky colour, with six legs; and from these worms are afterwards produced the cantharides, as the butterflies are from the caterpillars: they are frequent in France, Spain, and Italy, where being taken, and suspended over the fumes of vinegar, they are exposed to the sun to dry, and then sold to the druggist.

The principal use of the cantharides, at this time, is external, in making of blisters. We have a tincture of cantharides in the shops, that is reputed an excellent medicine. It is diuretic, and emmenagogue, and has been given in the gout with success.

To prepare the tincture of cantharides, take two drams of bruised cantharides, half a dram of cochineal, a pint and a half of proof spirit; digest them together in a sand heat, then filter the tincture for use

CANTHI, in anatomy, cavities at the extremities of the eye-lids, commonly called the corners of the eye: the greater of them, or the greater canthus, is next the nose; the lesser, or the little canthus, lies towards the temple.

CANTHUS, in chemistry, the lip of a vessel, or that part of it which is a little hollowed or depressed, for the easy powering off of liquors.

CANTIC-QUOIN. See QUOIN.

CANTICLES, a canonical book of the Old Testament. The talmudists ascribe it to Hezekiah, but the learned are agreed that king Solomon was the author of it; and his name is prefixed to it in the title of the hebrew text, and of the antient greek version.

It is a kind of epithalamium, in the form of an idyl, or bucolic, in which are introduced, as speakers, a bridegroom, a bride, the friends of the bridegroom, and the companions of the bride. The bridegroom and bride express their love for each other in very tender and affectionate terms; for which reason the Jews never allowed this book to be read by any, till they were at least thirty years of age.

Some authors are of opinion, that Solomon's design in this piece was, to describe his amour with Abishag, the Shunamite, or with the daughter of Pharaoh: on the contrary, others take it to be wholly allegorical, and understand it of the spiritual love of God towards his church. Some have pretended to discover in it five scenes; but others, with more justness, distinguish it into seven days, during which the antients celebrated their nuptials.

CANTIMARONS, or CATIMARONS, a kind of raft made of three or four hollowed trunks of trees, tied together with ropes of cocoa, with a triangular sail in the middle made of mats. They are used by the inhabitants of the coast of Coromandel, to go a fishing, and to trade along the coast.

CANTIN, or *Cape*-CANTIN, a promontory in the atlantic ocean, on the coast of Morocco in Africa: west longitude 10°, north latitude 33°.

CANTING LANGUAGE. See CANT.

CANTIRE, or KANTIRE, a peninsula of Scotland in Argyleshire, stretching into the irish sea, westward of the isle of Arran.

CANTO, in music, the treble, or at least the higher part of a piece.

This word more properly signifies the first treble, unless the word *secondo*, for the second, or *ripieno*, for the treble of the grand chorus, be added.

Canto-Concertante, is the treble of any principal part in a concerto, and generally plays or sings throughout.

Canto-Fermo, or *Simplice*, is what they call the plain song.

Canto-Figurato, signifies a composition wherein the parts differ from one another in their figures and motions, and is the reverse of canto-ermo.

CANTON, in geography, denotes a small country, or district, constituting a distinct government: such are the cantons of Switzerland. See SWITZERLAND.

CANTON is also the name of a large, populous, and wealthy city and port-town of China, situated on the river Ta, about fifty miles from the Indian ocean: east longitude 112° 30′, north latitude 23° 25′. It is a fortified place, within the walls of which no christians are permitted to enter, notwithstanding their great trade thither;

thither; it being from thence that they import all manner of chinese goods, as china-ware, tea, cabinets, raw and wrought silks, gold-dust, &c.

CANTONED, in architecture, is when the corner of a building is adorned with a pillaster, an angular column, rustic quoins, or any thing that projects beyond the naked of a wall.

CANTONED, or CANTONIZED, *cantonée*, in heraldry, the positions of such things as are borne with a cross, &c. between. He bears gules, a cross argent cantoned with four scallop shells.

CANTONING, in the military art, is the allotting distinct and separate quarters to each regiment of an army; the town, where they are quartered, being divided into so many cantons, or divisions, as there are regiments.

CANTRED, or CANTREF signifies an hundred villages, being a british word, compounded of the adjective *cant*, i. e. hundred, and *tref*, a town or village. In Wales, some of the counties are divided into cantreds, as in England into hundreds.

CANVAS, in commerce, a very clear unbleached cloth of hemp, or flax, wove very regularly in little squares. It is used for working tapestry with the needle, by passing the threads of gold, silver, silk, or wool, through the intervals, or squares.

This also is the name of a coarse cloth of hemp, unbleached, somewhat clear, which serves to cover womens stays, also to stiffen mens cloaths, and to make some other of their wearing apparel, &c.

It is likewise the name of a very coarse cloth made of hemp, unbleached, serving to make towels, and answering other domestic purposes. It is also used to make sails for shipping, &c.

CANUTI-AVIS, in ornithology, the grey tringa, with the wings spotted with white. See the article TRINGA.

This bird is about the size of the starling, or somewhat less; the tail is variegated with black and white; it lives about waters; we have it in the fens of the isle of Ely, and it is common to many other parts of Europe.

CANZONE, in music, signifies, in general, a song where some little figures are introduced: but it is sometimes used for a sort of italian poem, usually pretty long, to which music may be composed in the stile of a cantata. If this term be added to a piece of instrumental music, it signifies much the same as cantata; if placed in any part of a sonata, it implies the same meaning as *allegro*, and only denotes that the part to which it is prefixed, is to be played or sung in a brisk and lively manner.

CANZONETTA, a diminitive of canzone, denoting a little short song; the canzonette neapolitane have two strains, each whereof is sung twice over, as the vaudevilles of the French: the canzonette siciliane are a species of jigg, the measure whereof is usually twelve eights, and six eights, and sometimes both, are rondeaus.

CAOLIN, or KAOLIN. See KAOLIN.

CAORLO, an italian island at the bottom of the gulph of Venice, situated about twenty miles south-west of Aquileia; east long. 13°, north lat. 46°.

It is subject to Venice.

CAP, a part of dress made to cover the head, and much in the figure thereof.

The use of caps and hats is referred to the year 1449, the first seen in these parts of the world, being at the entry of Charles VII. into Rouen: from that time they began to take place of the hoods, or chaperoons, that had been used till then. When the cap was of velvet, they called it mortier; when of wool, simply bonnet. None but kings, princes, and knights, were allowed the use of the mortier. The cap was the head-dress of the clergy and graduates: church-men and members of universities, students in law, physic, &c. as well as graduates, wear square caps in most universities. Doctors are distinguished by peculiar caps, given them in assuming the doctorate. Pasquier says, that the giving the cap to students in the universities, was to denote that they had acquired full liberty, and were no longer subject to the rod of their superiors, in imitation of the antient Romans, who gave a pileus or cap to their slaves, in the ceremony of making them free.

The cap is also used as a mark of infamy in Italy. The Jews are distinguished by a yellow cap at Lucca, and by an orange one in France. Formerly those who had been bankrupts, were obliged, ever after, to wear a green cap, to prevent people from being imposed on in any future commerce.

CAP *of maintenance*, one of the regalia, or ornaments of state belonging to the kings of England, before whom it was carried at the coronation, and other great solemnities. Caps of maintenance are also carried

ried before the mayors of ſeveral cities in England.

CAP, in a ſhip, a ſquare piece of timber put over the head, or upper end of any maſt, having a round hole to receive the maſt. By means of theſe caps, the top-maſts and top-gallant-maſts are kept ſteady and firm in the treſſel-trees where their feet ſtand.

CAP *of a gun*, a piece of lead which is put over the touch-hole of a gun, to keep the priming from being waſted or ſpoiled.

CAPACIA, a town of Italy, in the kingdom of Naples, ſituated in the hither Principate, about ſixteen miles ſouth of Salerno; eaſt longitude 15° 16′, north latitude 40° 40′.

CAPACITY, in a general ſenſe, an aptitude, or diſpoſition to retain, or hold any thing.

CAPACITY, in geometry, is the ſolid contents of any body; alſo our hollow meaſures for wine, beer, corn, ſalt, &c. are called meaſures of capacity.

CAPACITY, in law, the ability of a man, or body politic, to give or take lands, or other things, or ſue actions.

Our law allows the king two capacities, a natural and a political; in the firſt, he may purchaſe lands to him and his heirs; in the latter, to him and his ſucceſſors. The clergy have the like.

CAPARASON, or horſe-cloth, a ſort of cover for a horſe. For led horſes, it is commonly made of linen-cloth, bordered round with woollen, and enriched with the arms of the maſter upon the middle, which covers the croupe, and with two cyphers on the two ſides. The caparaſons for the army, are ſometimes a great bear's ſkin; and thoſe for ſtables, are of ſingle buckram in ſummer, and of cloth in the winter.

CAPAX, in the order of Malta, a name given to the knights that have reſided five years at Malta, have made four caravans, or ſea-campaigns, and are in a condition of coming to a command.

CAPE, in geography, an high land running out, with a point, into the ſea, as Cape Norde, Cape Horn, the cape of Good hope, &c.

CAPE-COAST-CASTLE, the principal britiſh fort and ſettlement on the gold-coaſt of Guinea, ſituated under the meridian of London, in 5° north latitude.

CAPE, in law, a judicial writ concerning plea of lands or tenements, and is divided into cape *magnum* and cape *parvum*, both of which affect things immoveable; and beſides theſe, there is a cape *ad valenciam*.

Cape *magnum*, or the grand cape, lies before appearance, to ſummon the tenant to anſwer the default, and alſo aver to the demandant.

The cape *parvum*, is after appearance and view granted, and it ſummoneth the tenant to anſwer the default only.

Cape *magnum* is deſigned to lie, where a perſon has brought a *præcipe quod reddat* of a thing, that touches a plea of land, and the tenant makes default at the day given to him in the original writ; then this writ ſhall go for the king, to take the land into his hands: and if he comes not at the day given him, he loſes his land, &c.

Cape *parvum*, called petit-cape, is defined thus. When the tenant is ſummoned in plea of land, and cometh at the ſummons, and his appearance is recorded; and after he maketh default at the day that is given to him, then this writ ſhall go for the king.

Cape *ad valenciam*, is a ſpecies of cape *magnum*, where one being impleaded, and on a ſummons to warrant lands, a vouchee does not come at the day; whereupon if the demandant recovers of the tenant, he ſhall have this writ againſt the vouchee, and recover ſo much in value of his lands, in caſe he hath ſo much; and if not, there ſhall be an execution of ſuch lands and tenements as ſhall after deſcend to him in fee; or if he purchaſes afterwards, there may be a re-ſummons, &c. againſt him.

CAPELLA, in aſtronomy, a bright fixt ſtar of the firſt magnitude, in the left ſhoulder of the conſtellation auriga. It is, in the britannic catalogue, the fourteenth in order of that conſtellation. Its longitude is 17° 31′ 41″, its latitude 22° 51′ 47″.

CAPER, *capparis*, in botany. See the article CAPPARIS.

The buds of this plant make a conſiderable article in commerce, they are imported from Italy in pickle, and uſed in ſauces, &c.

The caper-bark of the ſhops, is not the bark of the branches, but that of the roots of the ſhrub which produces it.

It is an aperient and attenuant, and is recommended in nephritic caſes, and in dropſies, jaundices, and many other chronic diſeaſes: but the preſent practice does not pay any regard to it.

CAPER, in the dutch maritime affairs, a veſſel

veſſel fitted out to cruiſe upon, or take prizes from the enemy, like our privateers. See the article PRIVATEER.

CAPERQUIN, a town of Ireland in the country of Waterford, and province of Munſter, ſituated on the river Blackwater: weſt longitude 7° 50′, and north lat. 52° 5′.

CAPHAR, a duty which the Turks raiſe on the chriſtians, who carry or ſend merchandiſes from Aleppo to Jeruſalem, and other places in Syria.

This duty of caphar was firſt impoſed by the chriſtians themſelves, when they were in poſſeſſion of the Holy-Land, for the maintenance of the troops, which were planted in difficult paſſes, to obſerve the Arabs, and prevent their incurſions. It is ſtill continued, and much increaſed by the Turks, under pretence of defending the chriſtians againſt the Arabs, with whom, nevertheleſs, they keep a ſecret intelligence, favouring their excurſions and plunders.

CAPI-AGA, or CAPOU-AGASSI, a turkiſh officer, who is, as it were, grand-maſter of the ſeraglio.

He is the firſt in dignity and repute of all the white eunuchs, and is always near the grand ſignior's perſon. It is he who introduces embaſſadors to audience; and all great affairs paſs through his hands before they come to that of the prince.

CAPIAS, in law, a writ of two ſorts, one before judgment in an action, and the other after: that before judgment is called *capias ad reſpondendum*, where an original is ſued out, *&c.* to take the defendant, and make him anſwer the plaintiff; and that after judgment is the *capias ad ſatisfaciendum*, &c.

CAPIAS AD SATISFACIENDUM is a writ of execution that iſſues on a judgment obtained, and lies where any perſon recovers in a perſonal action, as for debt, damages, *&c.* in which caſes this writ iſſues to the ſheriff, commanding him to take the body of him, againſt whom the debt is recovered, who is to be kept in priſon till he make ſatisfaction.

CAPIAS CONDUCTOS AD PROFICISCENDUM, an original writ, which lies, by the common law, againſt any ſoldier, who has covenanted to ſerve the king in war, and appears not at the time and place appointed. It is directed to two of the king's ſerjeants at arms, to arreſt and take him wherever he can be found, and to bring him *coram conſilio noſtro*, with a clauſe of aſſiſtance.

CAPIAS PRO FINE is a writ lying where a perſon is fined to the king, for ſome offence committed againſt a ſtatute, and he does not diſcharge the fine according to the judgment; therefore his body ſhall be taken by this writ, and committed to gaol till the fine is paid.

CAPIAS UTLEGATUM, a writ which lies againſt any one outlawed, upon any action perſonal or criminal, by which the ſheriff is ordered to apprehend the party outlawed, for not appearing on the exigent, and keep him in ſafe cuſtody till the day of return, when he is to preſent him to the court, to be there farther ordered for his contempt.

CAPIAS IN WITHERNAM, a writ that lies for cattle *in withernam*; that is, where a diſtreſs taken, is driven out of the country, ſo that the ſheriff cannot make deliverance upon a replevin; then this writ iſſues, commanding the ſheriff to take as many beaſts of the diſtrainer.

CAPIGI, in the turkiſh affairs, the name of certain inferior officers belonging to the ſeraglio, to the number of five hundred, whoſe buſineſs is to aſſiſt the janizaries in guarding the firſt and ſecond gate of that palace; whence alſo the name capighi, which ſignifies a gate.

CAPILLAMENT, in a general ſenſe, ſignifies a hair, whence the word is applied to ſeveral things, which, on account of their length or their fineneſs, reſemble hairs: as,

CAPILLAMENTS *of the nerves*, in anatomy, the fine fibres, or filaments, whereof the nerves are compoſed.

CAPILLAMENTS, in botany, thoſe ſmall threads, or hairs, which grow up in the middle of a flower, and are adorned with little knobs at the top: thoſe knobs are called the apices, or antheræ, of a flower; and the capillaments are called the ſtamina. See the article STAMINA.

CAPILLARY, in a general ſenſe, an appellation given to things on account of their extreme fineneſs, or reſembling hair.

CAPILLARY ORES, in mineralogy, the ſame with thoſe otherwiſe denominated arboreſcent, or ſtriated.

CAPILLARY PLANTS are ſuch plants as have no main ſtem, but their leaves ariſe from the root, upon pedicles, and produce their ſeeds on the back of their leaves, as the fern, maiden-hair, *&c.*

Theſe plants are either with an undivided leaf, as the hemionitis and the phyllis; or with a ſingle divided leaf, which laſt have the leaf either cut or jagged in, but

but not divided into pinnæ, clear home to the main rib, as polypodium, lonchitis, ſcolopendria, &c. or elſe the leaf divided quite home to the rib, and hanging like pinnæ, as the chamæſelix marina and the trichomanes : others have the leaf doubly divided, or at leaſt once ſubdivided, the firſt diviſion being into branches, and the ſecond into pinnæ, as the hemionis multifida, &c. others have the leaf trebly divided, or thrice ſubdivided, *viz.* firſt into branches, then into little twigs, and after this into pinnæ ; and theſe are the filix ſcandens of Braſil, the filix florida, the filix mas ramoſa, &c.

CAPILLARY TUBES, in phyſics, little pipes, whoſe canals are extremely narrow, their diameter being only a half, third, or fourth of a line. See the article TUBE.

The aſcent of water, &c. in capillary tubes, is a phænomenon that has long embarraſſed the philoſophers ; for let one end of a glaſs-tube, open at both ends, be immerged in water, and the liquor within the tube will riſe to ſome ſenſible height above the external ſurface : or if two or more tubes are immerged in the ſame fluid, one of them a capillary one, the other of a large bore, the fluid will aſcend higher in the capillary tube than in the other, and this in the reciprocal ratio of the diameters of the tubes.

In order to account for this phænomenon, it will be neceſſary firſt to premiſe, that there is a greater attraction between the particles of glaſs and water, than there is between the particles of water themſelves : this appears plain from experience, which proves the attractive power in the ſurface of glaſs to be very ſtrong ; whence it is eaſy to conceive how ſenſibly ſuch a power muſt act on the ſurface of a fluid, not viſcid, as water, contained within the ſmall cavity or bore of a glaſs-tube ; as alſo that it will be in proportion ſtronger as the diameter of the bore is ſmaller ; for that the efficacy of the power follows the inverſe proportion of the diameter, is evident from hence, that only ſuch particles as are in contact with the fluid, and theſe immediately above the ſurface, can affect it. Now theſe particles form a periphery contiguous to the ſurface, the upper part of which attracts and raiſes the ſurface, and the lower part, which is in contact with it, ſupports and holds its up, ſo that neither the thickneſs nor length of the tube avails any thing, only the ſaid periphery of particles, which is always proportional to the diameter of the bore : the quantity of the fluid raiſed, will therefore be as the ſurface of the bore which it fills, that is, as the diameter ; as the effect would not be otherwiſe proportional to the cauſe, ſince the quantities follow the ratio of the diameters, the heights to which the fluids will riſe, in different tubes, will be inverſely as the diameters.

Some, however, doubt whether the law holds throughout, of the aſcent of the fluid being always higher as the tube is ſmaller ; Dr. Hook's experiments, with tubes almoſt as fine as cobwebs, ſeem to ſhew the contrary. The water in theſe, he obſerves, did not riſe ſo high as one would have expected. The higheſt he ever found was at 21 inches above the level of the water in the baſon, which is much ſhort of what it ought to have been by the law above-mentioned.

CAPILLARY VESSELS, in anatomy, the ſmalleſt and extreme parts of the veins and arteries.

Theſe are the leaſt, minuteſt, and inſenſible ramifications of the veins, ſo fine, that when cut or broken they yield little or no blood : they are conceived as vaſtly finer than hairs, and are beſt compared to the threads of cobwebs : they are ſometimes called evaneſcent veſſels.

Many ſmall veſſels of animal bodies have been diſcovered by the modern invention of injecting the veſſels of animals with a coloured fluid, which upon cooling grows hard. But though moſt anatomiſts know the manner of filling the large trunks, few are acquainted with the art of filling the capillaries. Mr. Monro has given us what he, after many trials, has found moſt ſucceſsful, in the Medic. Eſſ. Edinb. vol. 1. art. 9. where he enters into a very nice detail of the operation, to which we muſt refer the curious. See the article INJECTION.

CAPILLARY WORMS, in medicine, a kind of worms found in children, and otherwiſe called *crinones*. See CRINONES.

CAPILLATION, in greek τριχισμὸς, a capillary fracture in the cranium, ſo ſmall that it can ſcarce be perceived, but yet it often proves mortal. See FRACTURE.

CAPILLITIUM VENERIS, in phyſiology, denotes the fine threads ſeen floating in the air, in autumn ; which, according to ſome, are only the ſulphureous and earthy particles of a cloud, after the water has been exhaled ; but it ſeems more probable that they are the work of ſpiders. See the article AIR-THREADS.

CAPISTRUM, in ſurgery, a term appli-

ed to a bandage uſed in caſe of fractures of the jaws. The capiſtrum ſimplex is applied in fractures of the lower jaw, and the capiſtrum duplex, when both ſides of the jaw are fractured.

Capistrum, among antient muſicians, a bandage made of ſkins, with which the mouth and lips of the performer were bound up, leaving only a ſmall chink to admit the flute. Some believe that the capiſtrum was uſed in order to conceal from the ſpectators the diſtortion of the features by inflating the cheeks. Others imagine that it was intended to moderate the breath, and give a ſoft ſound to the flute.

CAPITAL, the head, chief, or principal of a thing. Thus,

Capital, in geography, denotes the principal city of a kingdom, province, or ſtate; as London is the capital of Britain, Paris of France, Madrid of Spain, York of the county of that name, *&c.* See the article Metropolis.

Capital, among merchants, traders, and bankers, ſignifies the ſum of money which individuals bring to make up the common ſtock of a partnerſhip, when it is firſt formed. It is alſo ſaid of the ſtock which a merchant at firſt puts into trade, for his account. It ſignifies likewiſe the fund of a trading company, or corporation, in which ſenſe the word ſtock is generally added to it: thus we ſay, the capital ſtock of the bank, *&c.* The word capital is oppoſed to that of profit or gain, though the profit often increaſes the capital, and becomes itſelf a part of it.

Capital crime, ſuch a one as ſubjects the criminal to capital puniſhment, that is, the loſs of life.

Capital medicines, in pharmacy, the principal preparations of the ſhops, remarkable for the number of their ingredients, and their extraordinary virtues: ſuch are mithridate, venice treacle, *&c.*

Capital lees, the ſtrong lees made by the ſoap-boilers, from pot-aſhes.

Capital letters. See Capitals.

Capital, in architecture, the uppermoſt part of a column or pillaſter, ſerving as the head, or crowning, and placed immediately over the ſhaft, and under the entablature.

Capital *of a column* is properly that whoſe plan is round.

Capital *of a pillaſter* is that whoſe plan is ſquare, or, at leaſt, rectilinear.

The capital is the principal part of an order of columns or pillaſters. It is of a different form in the different orders, and is that which chiefly diſtinguiſhes and characteriſes the orders. Such of theſe as have no ornaments, as the tuſcan and doric, are called capitals of mouldings; and the reſt, which have leaves and other ornaments, capitals of ſculptures.

Tuſcan Capital conſiſts of three members, *viz.* an abacus, under this an ovolo or quarter round, and under that a neck or colarino, terminating in an aſtragal, or fillet, belonging to the ſhaft. See the article Abacus, *&c.*

It is the moſt ſimple and unadorned of all capitals; and the character which diſtinguiſhes it from the doric, is that the abacus is ſquare, and quite plain without moulding. It is true, authors vary a little as to the character of this capital: Vignola gives the abacus a fillet; Vitruvius and Scamozzi add an aſtragal and a fillet, between the ovolo and neck; Serlio, only a fillet; and Philander rounds the corners of the abacus. In the trajan column there is no neck, but the aſtragal of the ſhaft is confounded with that of the capital. The height of this capital is the ſame with that of the baſe, *viz.* one module, or ſemidiameter. The projecture is equal to that of the cincture at the bottom of the column, *viz.* $\frac{1}{8}$ of the module. See the article Tuscan.

Doric Capital has its abacus crowned with a talon, and three annullets under the ovolo. Authors alſo vary as to the characters of this capital: Palladio, Vignola, *&c.* put roſes under the corners of the abacus, and in the neck of the capital: Vitruvius makes the height of this capital equal to half the diameter of the body of the column below. See Doric.

Ionic Capital, that which is diſtinguiſhed by volutes and ovolos. The ovolo is adorned with eggs, as they are ſometimes called from their oval form. The height of this capital Mr. Perrault makes eighteen minutes, its projecture one module ſeven tenths. The differences in the character of this capital, flow moſtly from the different management of the volutes, and conſiſt in this: 1. That in the antique, and ſome of the modern, the eye of the volute does not anſwer the aſtragal of the top of the ſhaft, as Vitruvius and ſome of the moderns make it. 2. That the face of the volutes, which uſually makes a flat, is ſometimes curved and convexed, ſo that the circumvolutions go advancing outwards, as is frequent in the antique. 3. That the border or rim of the

ſcroll

fcroll in the volute, is fometimes not only a plane fweep, but the fweep is accompanied with a fillet. 4. That the leaves which inveft the ballufter are fometimes long and narrow, fometimes larger and broader. 5. That the two faces of the volutes are fometimes joined at the outward corner, the balluſters meeting in the middle, to make a regularity between the faces on the front and back of the building, with thofe of the fides. 6. That among the moderns, fince Scamozzi, the ionic capital has been altered, and the four faces made alike, by taking away the ballufter and hollowing all the faces of the volute inwards, as in the compofite. 7. That Scamozzi and fome others, make the volutes to fpring out of the ovolo, as from a bafe; whereas in the antique the bark paffes between the ovolo and abacus, quite ftraight, only twifting at its extremities, to form the volute. And laftly, that of late years the fculptors have added a little kind of feftoons, fprung from the flower, whofe ftalk lies on the circumvolution of the volute. See the article IONIC.

Corinthian CAPITAL is the richeft of all, being adorned with a double row of leaves, with eight large and as many fmall volutes, fituated round a body, which by fome is called campana or bell, and by others tambour. The height of this capital is two modules one third, and its projecture, one and one third. See the article CORINTHIAN.

The differences in the characters of this capital are, 1. That, in Vitruvius, &c. the leaves are in the form of the acanthus; whereas in the antique they are more ufually olive-leaves. 2. That their leaves are ufually unequal, the undermoft being commonly made talleft, but fometimes the fhorteft; though they are fometimes all equal. 3. The leaves are fometimes ruffled, fometimes quite plane; the firft row generally bellies out towards the bottom, but at other times they are ftraight. 4. Sometimes the horns of the abacus are fharp at the corner, but moft commonly they are cut. 5. There is fome difference in the form and fize of the rofe. 6. The volutes are fometimes joined to each other, and at other times wholly feparated. 7. Sometimes the fpires of the volutes continue twifting even to the end, in the fame courfe; and fometimes they are turned back again near to the center, in the form of the letter S.

Compofite CAPITAL, that which has the double row of leaves of the corinthian, and the volutes of the ionic capital. See the article COMPOSITE.

The height of this capital is two modules one third, and the projectures one and two thirds.

The differences of its character confift in this, 1. That the volutes which ordinarily defcend and touch the leaves, are in fome works of the antique feparated from them. 2. That the leaves are fometimes unequal in height, the loweft being the talleft; and fometimes equal. 3. That the volutes of the moderns generally fpring out of the bafe; whereas in the antique they run ftraight the length of the abacus, over the ovolo, without ftriking into the bafe. 4. That the volutes, whofe thicknefs is contracted in the middle, and inlarged above, and below in the antique, in the works of the moderns have their fides parallel. 5. That the volutes which have been hitherto made as if folid, both by the antients and moderns, are now made much lighter and more airy; the folds ftanding hollow, and at a diftance the one from the other.

Attic CAPITAL, that which has leaves of partition in the gorge.

For the proportions of the feveral members of the capitals of columns, fee each member under its proper head, as ABACUS, VOLUTE, &c. and the article COLUMN.

Angular CAPITAL, that which bears the return of an entablature, at the corner of the projecture of a frontifpiece.

CAPITAL *of a ballufter*, that part which crowns a ballufter, refembling fometimes the capitals of fome order, efpecially the ionic.

CAPITAL *of a triglyph*, the plat-band over the triglyph, called by Vitruvius tænia. It is fometimes a triglyph which does the office of a capital to the doric pillafter.

CAPITAL *of a nich*, a kind of little canopy made over a fhallow nich, to cover a ftatue.

CAPITAL *of a lanthorn*, a covering fometimes of one fhape, and fometimes of another, which finifhes the lanthorn of a dome.

CAPITAL *of a baftion*, in fortification, a line drawn from the angle of a polygon to the point of the baftion; or from the point of the baftion to the middle of the gorge. Thefe capitals are from thirty-five to forty fathoms in length, from the point of the baftion to the place where the two demi-gorges meet.

CAPITALS, among printers, large or initia

tial letters, in which titles are compofed, and with which all periods, verfes, &c. commence.

The englifh printers fome time ago made it a rule to begin almoft every fubftantive with a capital; a cuftom not more abfurd than that of ufing no capitals at all, according to a french book lately publifhed.

CAPITANATE, a province of the kingdom of Naples, fituated on the gulph of Venice, and having the province of Molife on the north, and the Principate on the fouth.

CAPITATED PLANTS, *capitatæ plantæ*, in botany, a name given by Mr. Ray to thofe plants, whofe feeds, with their down, being included in a fcaly calyx, are conglobated into a roundifh figure like a head; fuch are the carduus, centaury, cinara, &c.

CAPITATION, a tax or impofition raifed on each perfon in confideration of his labour, induftry, office, rank, &c. It is a very antient kind of tribute, and anfwers to what the Greeks called κεφαλίτιων. The Latins call it *tributum*, by which taxes on perfons are diftinguifhed from taxes on merchandife, which were called *vectigalia*.

Capitations are never practifed among us but in exigencies of ftate. In France, the capitation was introduced by Lewis XIV, in 1695, and is a tax very different from the taille, being levied from all perfons, whether they be fubject to the taille or not. The clergy pay no capitation, but the princes of the blood are not exempted from it.

CAPITE, in law, an antient tenure of land, which was held immediately of the king, as of his crown, either by knight's fervice, or foccage. The tenure in capite was of two kinds; the one principal and general, the other fpecial or fubaltern. The former was of the king, the fountain from whence all tenures have their main original. The latter was of a particular fubject, fo called becaufe he was the firft that granted the land in fuch manner, and hence he was ftiled *capitalis dominus*, and *caput terræ illius*.

This tenure is now abolifhed, and, with others, turned into common foccage.

CAPITE CENSI, in roman antiquity, the poorer fort of people, who in the cenfus, or affeffments, were valued at little or nothing, but only named or reckoned as citizens. See the article CENSUS.

CAPITO, in ichthyology, a name given to feveral fpecies of *cyprinus*, as the chub, rudd, &c. as alfo to the mugil, or mullet.

CAPITOL, in antiquity, a caftle on the Mons Capitolinus, at Rome, where there was a temple dedicated to Jupiter, in which the fenate antiently affembled; and which ftill ferves as the city-hall, or town-houfe, for the meeting of the confervators of the Roman people.

The foundations of the capitol were laid by Tarquin the elder, in the year of Rome 139: his fucceffor Servius raifed the walls, and Tarquin the proud finifhed it in 221; but it was not confecrated till the third year after the expulfion of the kings, and eftablifhment of the confulate. The ceremony of the dedication of the temple was performed by the conful Horatius, in 246.

The capitol confifted of three parts, a nave, facred to Jupiter; and two wings, the one confecrated to Juno, and the other to Minerva: it was afcended to by ftairs; the frontifpiece and fides were furrounded with galleries, in which thofe who were honoured with triumphs entertained the fenate at a magnificent banquet, after the facrifices had been offered to the gods.

Both the infide and outfide were inriched with infinite ornaments, the moft diftinguifhed of which was the ftatue of Jupiter, with his golden thunder-bolt, his fceptre, and crown. In the capitol alfo were a temple to Jupiter the guardian, and another to Juno, with the mint; and on the defcent of the hill was the temple of Concord.

This beautiful edifice contained the moft facred depofits of religion, fuch as the ancylia, the books of the fybils, &c.

Antiently the name capitol was given to the principal temples of the roman colonies, as at Conftantinople, Jerufalem, Ravenna, Capua, &c.

CAPITOLINE GAMES, annual games inftituted by Camillus, in honour of Jupiter Capitolinus, and in commemoration of the capitol's not being furprifed by the Gauls. Plutarch tells us, that a part of the ceremony confifted in the public cryer's putting up the Hetrurians to fale by auction: they alfo took an old man, and tying a golden bulla about his neck, expofed him to the public derifion. Feftus fays, they alfo dreffed him in a prætexta.

There was another kind of capitoline games, inftituted by Domitian, wherein there were rewards and crowns beftowed on the poets, champions, orators, hiftorians,

rians, and muficians. Thefe laft capitoline games were celebrated every five years, and became fo famous, that inftead of calculating time by luftra, they began to count by capitoline games, as the Greeks did by olympiads. It appears, however, that this cuftom was not of long continuance.

CAPITOUL, an appellation given to the chief magiftrates of Tholoufe, on account of their meeting in a place called the capitol; they are eight in number, are chofen annually, and have each the government of a capitoulate, or precinct, like the wards of London.

CAPITULA RURALIA, affemblies or chapters held formerly by rural deans and parochial clergy, within the precinct of each deanry; held at firft every three weeks, afterwards once a month; and more folemnly once a quarter.

CAPITULAR, in general, a book divided into feveral chapters, or *capitula*: but by particular application, is taken for a collection of civil and canonical law; and more efpecially for thofe laws and regulations which the kings of France made at the public meetings of the bifhops and temporal lords, for the government of the church. The execution of what related to church affairs was intrufted with the archbifhops and bifhops; and thofe capitulars which concerned the temporal government, were put into the hands of the earls and other lords. In the eighth and following centuries, bifhops called their fynodical regulations for difcipline, *capitula*, or capitulars: they were commonly drawn from canons of councils, or the determinations of the fathers. Thefe decifions carried the force of law no farther than the diocefe where they were publifhed, unlefs approved by a council, or the metropolitan, in which latter cafe they were obferved through the whole province.

The celebrated author of the Spirit of Laws, obferves, that as France was divided into feveral fmall principalities, in a manner independent of one another, it was a difficult matter to caufe the capitulars to be every where obferved; and that therefore they were, in courfe of time, entirely forgot.

CAPITULATION, in military affairs, a treaty made between the garrifon or inhabitants of a place befieged, and the befiegers, for the delivering up the place on certain conditions.

The moft honourable and ordinary terms of capitulation are, to march out at the breach, with arms and baggage, drums beating, colours flying, a match lighted at both ends, and fome pieces of cannon, waggons, and convoys, for their baggage, and for the fick and wounded.

CAPITULATION, in the german polity, a contract which the emperor makes with the electors, in the name of all the princes and ftates of the empire, before he is declared emperor, and which he ratifies before he is raifed to that fovereign dignity. The principal points which the emperor undertakes to obferve, are, 1. To defend the church and the empire. 2. To obferve the fundamental laws of the empire. And, 3. To maintain and preferve the rights, privileges, and immunities of the electors, princes, and other ftates of the empire, fpecified in the capitulation. Thefe articles and capitulations are prefented to the emperor by the electors only, without the concurrence of of the other ftates, who have complained from time to time of fuch proceedings; and in the time of the weftphalian treaty, in 1648, it was propofed to deliberate in the following diet, upon a way of making a perpetual capitulation; but the electors have always found means of eluding the execution of this article. In order however to give fome fatisfaction to their adverfaries, they have inferted in the capitulations of the emperors, and in that of Francis I. in particular, a promife to ufe all their influence to bring the affair of a perpetual capitulation to a conclufion. Some german authors own that this capitulation limits the emperor's power; but maintain that it does not weaken his fovereignty: though the moft part maintain that he is not abfolute, becaufe he receives the empire under conditions which fets bounds to an abfolute authority.

CAPITULUM, among botanifts, the fame with what is otherwife called *umbella*.

CAPIVI, or COPIVI. See COPIVI.

CAPNOMANCY, in antiquity, a kind of divination drawn from the fmoke of facrifices: when this was thin, light, and afcended in a ftraight line, it was deemed a good omen; and, if the contrary, an ill one.

CAPOC, a fort of cotton as foft as filk, fo fine and fo fhort that it cannot be fpun. It is ufed in the Eaft-Indies, as well as in Europe, to line palanquins, to make beds, mattraffes, cufhions, pillows, &c.

CAPON, a cock chicken, gelded as foon as left by the dam, or as foon as he begins

to crow. They are of ufe either to lead chickens, ducklings, pheafants, &c. and defend them from the kites and buzzards; or to feed for the table, they being reckoned more delicate than either a cock or a hen.

CAPON'S-TAIL GRASS, the fame with the *feftuca* of botanical writers. See the article FESTUCA.

CAPONIERE, or CAPONNIERE, a work funk on the glacis of a place, about four or five feet deep: the earth that comes out of it ferves to form a parapet of two or three feet high, made with loop-holes or fmall embraffures; it is covered overhead with ftrong planks, on which are laid clays, or hurdles, which fupport the earth which covers all. It holds fifteen or twenty men, who fire through thefe embraffures. They are alfo fometimes made in the bottom of a dry moat.

CAPPACIA, a town of the hither Principate, in the kingdom of Naples. It is a bifhop's fee, and fituated about fifty-five miles fouth-eaft of the city of Naples: eaft longitude 15° 20', and north latitude 40° 40'.

CAPPARIS, *caper*, in botany, a genus of the polyandria-monogynia clafs of plants, the corolla of which confifts of four roundifh, emarginated, open petals: the fruit is a carnofe, turbinated capfule, with only one cell, containing numerous kidney-fhaped feeds. See plate XXXVI. fig. 3. and the article CAPER.

CAPRA, the GOAT, in zoology, conftitutes a genus of quadrupeds, of the order of the *pecora*, diftinguifhed from the other genera of this order, by their hollow, rough, and erect horns, which bend a little backwards.

Of this genus authors enumerate a great many fpecies, as the common goat; the *rupicapra*, or chamois-goat; the *ibex*; the *gazella*; and feveral others: for a defcription of which, fee the articles GOAT, RUPICAPRA, &c.

CAPRA, in aftronomy, an appellation given to the ftar capella, and fometimes alfo to the conftellation capricorn. See the articles CAPELLA and CAPRICORN.

CAPRA SALTANS, in meteorology, a fiery meteor, or exhalation, which fometimes appears in the atmofphere: the exhalation is not a ftraight line, but inflected, confifting of windings in and out, refembling the capering of a goat.

CAPRAIA, an ifland on the coaft of Tufcany, about thirty miles fouth-weft of Leghorn; eaft long. 11°, and north lat. 43° 15'.

CAPRARIA, in botany, a genus of the didynamia-angiofpermia clafs of plants, the flower of which confifts of a fingle, concave petal, divided into four fegments: the fruit is an oblong conic capfule, formed of two valves, and containing only one cell, where there are a great number of feeds of an oblong form.

CAPRAROLA, a town of St. Peter's patrimony, in Italy, about twenty miles north of the city of Rome, and eight fouth of Viterbo: eaft longit. 13°, and north latitude 42° 30'.

It is a bifhop's fee.

CAPRI, or CAPREA, a city and ifland at the entrance of the gulph of Naples, about twenty miles fouth of that city: eaft longit. 14° 50', and north latitude 40° 45'.

The ifland is only four miles long, and one broad; the city is a bifhop's fee, fituated on a high rock, at the weft end of the ifland.

CAPRICE, in mufic, a term applied to certain pieces, in which the compofer gives a loofe to his fancy, and not being confined either to particular meafures, or keys, runs divifions according to his mind, without any premeditation.

CAPRICE, in architecture, an appellation given to buildings of a peculiar tafte, and deviating from the received rules of that art.

CAPRICORN-BEETLE, the englifh name of a fpecies of *cerambyx*, with antennæ fomewhat refembling goat's horns. See plate XXXVI. fig. 4.

CAPRICORN, in aftronomy, one of the twelve figns of the zodiac, reprefented on globes in the form of a goat, and characterifed in books by this mark ♑.

It is the tenth fign in order, and contains twenty-eight ftars, according to Ptolemy and Tycho Brahe; twenty-nine, according to Hevelius; and fifty-one, according to Flamftead.

Tropic of CAPRICORN, a leffer circle of the fphere, which is parallel to the equinoctial, and at 23° 30' diftance from it fouthwards.

CAPRIFICATION, a method ufed in the Levant, for ripening the fruit of the domeftic fig-tree, by means of infects bred in that of the wild fig tree.

It is faid that thefe figs will never come to maturity, unlefs wounded by the infects depofiting their eggs. Poffibly the reafon of

of this effect, may be their lacerating the veſſels of the fruit, and thereby deriving thither a greater quantity of nutricious juice.

Plums and pears, wounded in the ſame manner, are found to ripen ſooneſt, and the pulp about the wound has a more exquiſite taſte than the reſt.

CAPRIMULGUS, the GOAT-SUCKER, in ornithology, a ſpecies of *hirundo*, with an undivided tail, and briſtles at the mouth, erroneouſly called the churn-owl, or fern-owl. See the article HIRUNDO.

CAPRIOLES, in the manege, leaps that a horſe makes in the ſame place, without advancing, in ſuch a manner, that when he is at the height of the leap, he jerks out with his hinder legs even and near. It is the moſt difficult of all the high manege. It differs from a croupade in this, that in a croupade the horſe does not ſhew his ſhoes; and from a ballotade, becauſe in this he does not jerk out. To make a horſe work well at caprioles, he muſt be put between two pillars, and taught to raiſe firſt his fore-quarters, and then his hind-quarters, while his fore are yet in the air, for which end you muſt give the whip, and the poinſon.

CAPSICUM, GUINEA PEPPER, in botany, a genus of the pentandria-monogynia claſs of plants, the flower of which is a rotated petal, with a ſhort tube, a patent plicated limb, divided into five broad and ſharp pointed ſegments: the fruit is a berry without pulp, approaching to an oval figure, with two hollow and coloured cells, containing numerous and compreſſed ſeeds, of a kidney ſhape. Guinea-pepper is more uſed as a ſauce and pickle, than in phyſic.

CAPSQUARES, in gunnery, ſtrong plates of iron which come over the trunnions of a gun, and keep it in the carriage.

They are faſtened by a hinge to the prize-plate, that they may lift up and down, and form a part of an arch, in the middle to receive a third part of the thickneſs of the trunnions: for two thirds are let into the carriage, and the other end is faſtened by two iron wedges, called the forelocks and keys.

CAPSTAN, or MAIN-CAPSTAN, in a ſhip, a great piece of timber in the nature of a windlaſs, placed next behind the main-maſt, its foot ſtanding in a ſtep on the lower deck, and its head between the upper decks; formed into ſeveral ſquares with holes in them. Its uſe is to weigh the anchors, to hoiſe up or ſtrike down top-maſts, to heave any weighty matter, or to ſtrain any rope that requireth a main force.

Jear CASPAN is placed between the main-maſt and the mizen, and ſerves to ſtrain any rope, heave upon the jear-rope or upon the viol, or hold off by at the weighing of an anchor.

CAPSTAN-BARS, the pieces of wood that are put into the capſtan holes, to heave up any thing of weight into the ſhip.

Pawl of a CAPSTAN, a ſhort piece of iron made faſt to the deck, and reſting upon the whelps, to keep the capſtan from recoiling, which is of dangerous conſequence.

Whelps of a CAPSTAN are ſhort pieces of wood, made faſt to it, to keep the cable from coming too nigh, in turning it about.

Pawling the CAPSTAN, is ſtopping it from turning by means of the pawl.

Come up CAPSTAN, or *launch out the* CAPSTAN, that is, ſlacken the cable which you heave by.

CAPSULATE, or CAPSULATED PLANTS, thoſe furniſhed with capſules for the reception of their ſeeds.

CAPSULE, *capſula*, in a general ſenſe, denotes a receptacle, or cover, in form of a bag.

CAPSULE, among botaniſts, a ſpecies of pericarpium, or ſeed-veſſel, compoſed of ſeveral dry, elaſtic valves, which uſually burſt open at the points, when the ſeeds are ripe: it differs from a pod, in being roundiſh and ſhort. See the article POD. This kind of pericarpium ſometimes contains one cell or cavity, ſometimes more: in the firſt caſe it is called unilocular, as it is bilocular, trilocular, &c. when it contains two, three, &c. cells or cavities.

CAPSULA, in chemiſtry, an earthen pan for holding things that are to undergo violent operations of the fire.

CAPSULA-COMMUNIS, in anatomy, called alſo *capſula Gliſſonii*, from its diſcoverer, is a tunic continuous with the peritonæum, and includes the branches of the vena porta and biliary ducts as they approach the liver, as well as within it.

CAPSULA-CORDIS. See PERICARDIUM.

CAPSULÆ ATRABILIARIÆ, called alſo *glandulæ renales*, and *renes ſuccenturiati*, are two yellowiſh glands of a compreſſed figure, lying on each ſide of the upper part of the kidneys. They have a very narrow cavity, imbued with a browniſh liquor of a ſweetiſh taſte. Their figure is irregular, between ſquare, triangular, and

and oval. Their ſize alſo is various; but in adults, they are in general about the bigneſs of a large nux vomica. In the fœtus, they are larger, and often exceed the kidneys themſelves in ſize. The membrane that ſurrounds them is very thin: it cloſely involves their whole ſubſtance, and connects them with the kidneys. Their blood-veſſels are ſometimes ſent from the aorta and the vena cava, but more frequently from the emulgents: their nerves are from the plexus renalis, and their lymphatic veſſels are numerous. There is no excretory duct diſcovered in them, and their uſe is therefore not certainly known. By their great ſize in the fœtus, they ſeem deſtined rather to the ſervice of that ſtate, than of any other.

Capsulæ seminales, are the extreme parts of the vaſa deferentia, which have their cavities dilated in manner of capſules. Their uſe is to tranſmit the ſemen from the teſtes to the veſiculæ ſeminales.

CAPTAIN, a military officer, whereof there are various kinds, according to their commands.

Captain *of a troop or company*, an inferior officer, who commands a troop of horſe, or company of foot, under a colonel. In the ſame ſenſe we ſay, captain of dragoons, of grenadiers, of marines, of invalids, *&c.*

In the horſe and foot guards, the captains have the rank of colonels.

Captain *general*, he who commands in chief.

Captain *lieutenant*, he who with the rank of captain, but the pay of lieutenant, commands a troop or company in the name and place of ſome other perſon who is diſpenſed with on account of his quality from performing the functions of his poſt.

Thus the colonel, being uſually captain of the firſt company of his regiment; that company is commanded by his deputy, under the title of captain-lieutenant.

So in England, as well as in France, the king, queen, dauphin, princes, *&c.* have uſually the title of captains of the guards, *gens d' armes*, *&c.* the real duty of which offices is performed by captain-lieutenants.

Captain *reformed*, one who, upon the reduction of the forces, has his commiſſion and company ſuppreſſed; yet is continued captain, either as ſecond to another, or without any poſt or command at all.

Captain *of militia*, he who commands a company of the militia, or trained bands. See the article Militia.

Captain *of a ſhip of war*, the commanding officer of a ſhip, galley, fire-ſhip, or the like. This officer ranks with a colonel in the land ſervice.

Captain *of a merchant ſhip*, he who has the direction of the ſhip, her crew, and lading, *&c.* In ſmall ſhips and ſhort voyages, he is more ordinarily called the maſter. In the Mediterranean, he is called the patroon.

The proprietor of the veſſel appoints the captain or maſter, and he is to form the crew, and chooſe and hire the pilots, mates, and ſeamen; though, when the proprietor and maſter reſide on the ſame ſpot, they generally act in concert together.

Captain Bashaw, or Capondan Bashaw, in the polity of the Turks, ſignifies the turkiſh high admiral. He poſſeſſes the third office of the empire, and is inveſted with the ſame power at ſea, that the vizir has on ſhore. Solyman II. inſtituted this office in favour of the famous Barbaroſſa, with abſolute authority over the officers of the marine and arſenal, whom he may puniſh, caſheer, or put to death, as ſoon as he is without the Dardanelles. He commands in chief in all the maritime countries, cities, caſtles, *&c.* and, at Conſtantinople, is the firſt magiſtrate of police in the villages on the ſide of the Porte, and the canal of the Black Sea. The mark of his authority is a large indian cane, which he carries in his hand, both in the arſenal and with the army.

The captain-baſhaw enjoys two ſorts of revenues; the one fixed, the other caſual. The firſt ariſe from a capitation of the iſlands in the Archipelago, and certain governments in Natolia and Galipoli. The latter conſiſt in the pay of the men, who die during a campaign; in a fifth of all prizes, made by the begs; in the profits accruing from the labour of the ſlaves, whom he hires as rowers to the grand ſignior; and in the contributions he exacts in all places where he paſſes.

CAPTAINRY, in the french cuſtoms, the office of keeper of a royal palace, or ranger of a chace, foreſt, *&c.*

CAPTION, in law, is where a commiſſion is executed, and the commiſſioners ſubſcribe their names to a certificate, declaring when and where the commiſſion was executed. It relates chiefly to commiſſions,

missions, to take answers in chancery, and depositions of witnesses, and take fines of lands, *&c.*

CAPTION and HORNING, in the law of Scotland. When a decreet or sentence is obtained against any person, the obtainer thereof takes out a writ, whereby the party decerned is charged to pay or fulfil the will of the decreet, under the pain of rebellion: this writ is called letters of horning. If he refuse to comply, then the writ or letters of caption may be raised, whereby all the inferior judges and magistrates are commanded to assist in apprehending the rebel, and putting him in prison.

CAPTIVE, a slave or person taken by the enemy in war, or by a pirate or corsair. See the articles SLAVE and PIRATE.

The Romans led their captives in triumph, and, by the cornelian law, the latter wills of those Romans, who died in the hands of an enemy, were comfirmed in the same manner, as if they had been free, although that will had been made, before the person marched out of the city to war.

Captive, in modern history, more particularly denotes a christian slave, taken by the piratical states of Barbary.

The fathers of la Merci and the Mathurins in France are employed in redeeming these captives; and, in England, a statute was made for the relief of captives, taken by turkish and other pirates, in 16 and 17 of Car. II.

CAPTIVITY, a punishment which God inflicted upon his people, for their vices and infidelities. The first of these captivities is that of Egypt, from which Moses delivered them; after which, are reckoned six during the government of the judges: but the greatest and most remarkable, were those of Judah and Israel, which happened under the kings of each of these kingdoms. It is generally believed, that the ten tribes of Israel never came back again after their dispersion; and Josephus and St. Jerom are of this opinion: nevertheless, when we examine the writings of the prophets, we find the return of Israel from captivity pointed out in a manner, almost as clear as that of the tribes of Benjamin and Judah. See Hosea i. 10, xi. 12. Amos ix. 14. Isaiah xi. 13 and 14. Ezekiel xxxvii. 16, *&c.*

The captivities of Judah are generally reckoned four; the fourth and last of which fell out in the year of the world 3416 under Zedekiah; and from this period begin the seventy years captivity, foretold by Jeremiah.

Since the destruction of the temple by the Romans, the Hebrews boast, that they have always had their heads, or particular princes, whom they call princes of the captivity, in the east and west. The princes of the captivity in the east governed the Jews, who dwelt at Babylon, in Chaldæa, Assyria and Persia; and the prince of the captivity in the west governed those, who dwelt in Judæa, Egypt, Italy, and in other parts of the roman empire. He, who resided in Judæa, took up his abode commonly at Tiberias, and assumed the title of Roschabboth, head of the fathers or patriarchs. He presided in assemblies, decided in cases of conscience, levied taxes for the expences of his visits, and had officers under him, who were dispatched through the provinces, for the execution of his orders. As to the princes of the captivity of Babylon, or the east, we know neither the original nor succession of them; it appears only, that they were not in being before the end of the second century.

CAPTURE signifies, particularly, prizes taken by privateers, in time of war, which are to be divided between the captors. See the article PRIZE.

CAPUA, a city of the province of Lavoro, in the kingdom of Naples, situated on the river Volturno, about fifteen miles north-west of the city of Naples; east long. 15°, and north lat. 41° 20′.

It is the see of an archbishop.

CAPUCHINS, in the church of Rome, the same with franciscans. See the article FRANCISCANS.

CAPUT, the HEAD, in anatomy. See the article HEAD.

CAPUT DRACONIS, the DRAGON'S HEAD, in astronomy, the ascending node of the moon. See the article NODE.

Caput draconis is also a star of the first magnitude, in the head of the constellation draco. See the article DRACO.

CAPUT GALLINAGINIS, in anatomy, a kind of septum, or spongeous border at the extremities of the apertures of each of the vesiculæ seminales, serving to hinder the seed, coming from one side, from rushing upon, and so stopping the discharge of the other.

Some will have its use to be, to prevent the impulse of the seed from dilating the orifices of the vesiculæ, and so ouzing out, except when assisted by the compres-

fion of the furrounding parts, as in copulation; but this, according to others, is rather the office of a diftinct caruncle, placed at each orifice, and acting as a valve.

CAPUT MORTUUM, in chemiftry, that thick, dry matter, which remains after diftillation of any thing, but of minerals efpecially.

It very frequently denotes only that which remains of vitriol in its diftillation, which they call colcothar vitrioli. The caput mortuum, though in fome cafes there be but little, if any active principle left in it, yet it is never pure: and the colcothar vitrioli, if expofed to the air, will turn to vitriol again. The caput mortuum, called alfo terra damnata, is found in form of a friable, porous matter, without tafte or fmell: it is ranked among the chemical elements, and fuppofed to conftitute the dry, fixed, earthy, and folid part of all bodies whatever. It is what the chemifts call a paffive element or principle, ferving as the bafis or fupport of the active ones.

CAPY-BARA, in zoology, the thick-headed hippopotamus, with no tail: it is a native of Brafil, and called porcus fluviatilis, the river-hog, from the refemblance it bears to the hog-kind. See the article HIPPOPOTAMUS.

CAR, or CARR. See the article CARR.

CARABINE, a fire-arm, fhorter than a mufket, carrying a ball of twenty-four in the pound, borne by the light-horfe, hanging at a belt over the left fhoulder.

The barrel is two feet and a half long, and is fometimes furrowed fpirally within, which is faid to add to the range of the piece.

CARABINEERS, or CARABINIERS, regiments of light horfe, carrying longer carabines than the reft, and ufed fometimes on foot.

CARABUS, in zoology, a genus of four-winged flies, the antennæ of which are oblong, flender, and fetaceous; and the thorax is fomewhat convex, marginated, of a cordated figure, and truncated in the hinder part.

Authors enumerate a great many fpecies of this infect, diftinguifhed by their different colours, and other peculiarities.

CARACAOS, or CARASSOW, a town on the coaft of Terra Firma, in South America; weft long. 67°, north lat. 10° 10′.

CARACARA, in zoology, a brafilian fpecies of falco, the back of which is of a pale-brown colour, variegated in an elegant manner with fpots of white and yellow. See the article FALCO.

This is one of the moft beautiful of the hawk kind: it is about the bignefs of a tame pigeon; the head is fmall, the beak is broad at the bafe, but fhort, and confiderably hooked; the tail is long and beautifully fafciated, with tranfverfe broad lines, of white and brown, placed in an alternate order. See plate XXXVI. fig. 6.

CARACOL, in the manege, the half turn which a horfeman makes, either to the right or left.

In the army, the horfe always make a caracol after each difcharge, in order to pafs to the rear of the fquadron.

CARACOL, in architecture, denotes a ftair-cafe in a helix or fpiral form.

CARACOLI, a factitious metal, of which the natives of the Caribbee iflands, or the leffer Antilles, make a fort of ornament in the form of a crefcent, which they alfo call caracoli.

This metal comes from the main land; and the common opinion is, that it is a compound of filver, copper and gold, fomething like the corinthian brafs among the antients. Thefe metals are fo perfectly mixed and incorporated together, that the compound which refults from them, it is faid, has a colour that never alters, how long foever it remains in the fea, or under ground. It is fomething brittle, and they who work at it, are obliged to mix a large proportion of gold with it, to make the compound more tough and malleable.

CARACT, CARAT, CARRAT, the name of that weight which expreffes the degree of finenefs that gold is of.

The mint-mafter, or cuftom, have fixed the purity of gold at 24 caracts; though it is not poffible fo to purify and refine that metal, but it will want ftill about one fourth part of a caract in abfolute purity and perfection. The caract is divided into $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, and $\frac{1}{32}$. Thefe degrees ferve to diftinguifh the greater or leffer quantity of alloy therein contained: for inftance, gold of 22 caracts, is that which has two parts of filver, or of any other metal, and 22 of fine gold.

CARACT is alfo a certain weight which goldfmiths and jewelers ufe wherewith to weigh precious ftones and pearls.

This caract weighs four grains, but fomething lighter than the grains of other weights.

weights. Each of these grains is subdivided into $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, &c.

CARAITES, in the ecclesiastical history of the Jews, a religious sect among that people, who adhere closely to the text and letter of the scriptures, rejecting the rabbinical interpretations, and the cabbala.

The caraites pass for the most learned of the jewish doctors; they are chiefly to be met with in Poland, Muscovy, and the east: they are but few in comparison of the bulk of the Jews, who are of the party of the rabbins: the latter have so great an aversion for the caraites, that they will have no alliance, nor even conversation, with them: they treat them as bastards; and if a caraite would turn rabbinist, the other Jews would not receive him. See the article Cabbala.

CARAMANIA, a province of Natolia, in Asia, situated on the Mediterranean sea, opposite to the island of Cyprus.

CARAMANTA, the name of a province of South America, bordered on the north by the district of Carthagena; on the east, by new Grenada; and on the south and west, by Popayan.

This is also the name of the capital of that province, situated in 5° 18′ north lat.

CARANNA, a vegetable production, whose inflammability and solubility in oil, prove it to be truly a resin, though some call it a gum.

It is brought to us principally from New Spain, and is to be chosen clean, of a dark colour, and bitterish taste.

This resin affords, by distillation, a fine odoriferous oil, which is esteemed, as well as the resin itself, a very powerful external remedy, in cases of pain, tumours, and wounds of the nerves. It is even used by some in the gout and sciatica. It is made into a plaster, with the addition of Chio-turpentine, and oil of mace, which is applied to the stomach in cases of indigestions, and to the head for the cure of inveterate pains there.

CARAVAN, or Caravanne, in the east, signifies a company or assembly of travellers and pilgrims, and more particularly of merchants, who for their greater security, and in order to assist each other, march in a body through the desarts, and other dangerous places, which are infested with Arabs, or robbers.

There is a chief, or aga, who commands the caravan, and is attended by a certain number of janasaries, or other militia, according to the countries from whence the caravans set out; which number of soldiers must be sufficient to defend them, and conduct them, with safety, to the places for which they are designed, and on a day appointed. The caravan encamps every evening near such wells or brooks, as their guides are acquainted with; and there is a strict discipline observed upon this occasion, as in armies in time of war. Their beasts of burden are partly horses, but most commonly camels, who are capable of undergoing a very great fatigue.

The grand signior gives one fourth of the revenues of Egypt to defray the expence of the caravan that goes yearly to Mecca to visit Mahomet's tomb: the devotees in this caravan are from forty to seventy thousand, accompanied with soldiers to protect them from the pillage of the arabs, and followed by eight or nine thousand camels, laden with all necessary provisions for so long a passage across deserts.

Caravan is also used for the voyages or campaigns which the knights of Malta are obliged to make at sea against the Turks and Corsairs, that they may arrive at the commandaries or dignities of the order.

The reason of their being thus called, is because the knights have often seized the caravans going from Alexandria to Constantinople.

CARAVANIER, a person who leads the camels, and other beasts of burden, who are commonly used in the caravans in the East.

CARAVANSERA, or Karavansera, a large public building, or inn, appointed for receiving and lodging the caravans. It is commonly a large square building, in the middle of which there is a very spacious court; and under the arches or piazzas that surround it, there runs a bank, raised some feet above the ground, where the merchants, and those who travel with them in any capacity, take up their lodgings, as well as they can: the beasts of burden being tied to the foot of the bank. Over the gates, that lead into the court, there are sometimes little rooms, which the keepers of the caravanseras let out, at a very high price, to such as have a mind to be private.

The caravanseras in the east, are something in the nature of the inns in Europe, only that you meet with little accommodation either for man or beast, but are obliged to carry almost every thing with

 you:

you: there is never a caravanſera without a well, or ſpring of water. Theſe buildings are chiefly owing to the charity of the mahometans: they are eſteemed ſacred dwellings, where it is not permitted to inſult any perſon, or to pillage any of the effects that are depoſited there. They even carry their precautions ſo far, as not to ſuffer any man who is not married to lodge there; becauſe they are of opinion, that a man who has no wife, is more dangerous than another.

CARAVANSERASKIER, the ſteward, or keeper of a caravanſera.

He keeps an account of all the merchandizes that are ſold upon truſt, and demands the payments of the ſums due to the merchants, for what has been ſold in the caravanſera, on the ſeller's paying two *per cent.*

CARAWAY, or CARRAWAY, the engliſh name of the carum of botaniſts. See the article CARUM.

CARBUNCLE, in natural hiſtory, a very elegant gem, whoſe colour is deep red, with an admixture of ſcarlet.

This gem was known among the antients by the name of anthrax. It is uſually found pure and faultleſs, and is of the ſame degree of hardneſs with the ſapphire: it is naturally of an angular figure, and is found adhering, by its baſe, to a heavy and ferrugineous ſtone of the emery-kind: its uſual ſize is near a quarter of an inch in length, and two thirds of that in diameter in its thickeſt parts: when held up againſt the ſun, it loſes its deep tinge, and becomes exactly of the colour of a burning charcoal, whence the propriety of the name which the antients gave it. It bears the fire unaltered, not parting with its colour, nor becoming at all the paler by it. It is only found in the Eaſt-Indies, ſo far as is yet known, and there but very rarely.

CARBUNCLE, or ANTHRAX, in ſurgery, an inflammation which ariſes, in time of the plague, with a veſicle or bliſter, almoſt like thoſe produced by burning. This inflammation, for the moſt part, terminates in a ſphacelus, and putrifies the ſubjacent parts down to the bone, they becoming as black as a coal. A carbuncle always breaks out very ſpeedily, even in the ſpace of an hour or two, attended with heat and pain: as ſoon as it is opened, it diſcharges a livid ſanies, or ſometimes a limpid water: it is black within, which is a ſign that the ſphacelus has ſeized the ſubjacent parts, and is making its progreſs: but the putrid fleſh in thoſe who recover, ſuppurates, and parts from the ſound. The ſize of theſe peſtilential bliſters is various, more or leſs; as is alſo their number in the patient; for there is no part of the body which they do not infeſt, and they generally appear in company with bubos. See the article BUBO.

Theſe carbuncles which ariſe in the face, neck, breaſt, or armpits, are obſerved to be of the worſt kind, for they generally kill the patient. As to the internal treatment of carbuncles, the very ſame is to be obſerved in this caſe, as has been recommended under the article *peſtilential* BUBOS.

In the external treatment, ſome of the modern phyſicians uſe only ſcarification in this caſe, with very good ſucceſs; others only open the eruptions with a pair of ſciſſars, and having diſcharged the matter, they frequently waſh the carbuncle with *ſp. vin. campb.* or *ſp. vin.* wherein has been digeſted a little theriaca: they afterwards apply a maturating cataplaſm, which is to be continued till the carbuncle ſeparates from the ſound parts; then they cut it out all at once.

CARBUNCLE, in heraldry, a charge or bearing, conſiſting of eight radii, four whereof make a common croſs, and the other four a ſaltier.

Some call theſe radii buttons, or ſtaves, becauſe round, and enriched with buttons, or pearled like pilgrims ſtaves, and frequently tipped or terminated with flower-de-luces: others blazon them, royal ſceptres, placed in ſaltier, pale and feſſe.

CARCASE, *cadaver*, the body of a dead animal, eſpecially a brute; that of the human ſpecies being called corps.

It is well known, that fleſh, as well as blood, is ſpecifically heavier than water; and yet dead bodies, after lying ſome time at the bottom, are always found to float: a circumſtance undoubtedly owing to air generated in the bowels by putrefaction, whereby the body is buoyed up. See the articles FERMENTATION and PUTREFACTION.

CARCASE, in architecture, the ſhell or ribs of a houſe, containing the partitions, floors, and rafters, made by carpenters; or it is the timber-work (or as it were the ſkeleton) of a houſe, before it is lathed and plaſtered; it is otherwiſe called the framing.

CARCASSE, or CARCUSS, in the art of

war,

war, an iron-case or hollow capacity, about the bigness of a bomb, of an oval figure, made of ribs of iron, filled with combustible matters, as meal-powder, salt-petre, sulphur, broken glass, shavings of horns, turpentine, tallow, *&c.* the design of it is to be thrown out of a mortar to set houses on fire, and do other execution. It has two or three apertures through which the fire is to blaze.

CARCASSONE, a town of Languedoc, in France, situated on the river Ande, about twenty-five miles west of Narbonne: east long. 2°, north lat. 43° 20′.

It is a bishop's see.

CARCERES, in the antient circensian games, were inclosures, in the circus, wherein the horses were restrained till the signal was given for starting, when, by an admirable contrivance, they all at once flew open.

CARCINOMA, καρκίνωμα, among physicians, the same with cancer. See the article CANCER.

CARCUSS, or CARCASSE. See the article CARCASSE.

CARD, among artificers, an instrument consisting of a block of wood, beset with sharp teeth, serving to arrange the hairs of wool, flax, hemp, and the like: there are different kinds of them, as hand-cards, stock-cards, *&c.*

CARDS, among gamesters, little pieces of fine thin pasteboard of an oblong figure, of several sizes, but most commonly in England three inches and an half long, and two and an half broad, on which are painted several points and figures.

The moulds and blocks for making cards, are exactly like those that were used for the first books: they lay a sheet of wet or moist paper on the block, which is first slightly done over with a sort of ink made with lamb-black diluted in water, and mixed with some starch to give it a body. They afterwards rub it off with a round list. The court-cards are coloured by means of several patterns, stiled stane-files. These consist of papers cut through with a pen-knife, and in these apertures, they apply severally the various colours, as red, black, *&c.* These patterns are painted with oil-colours, that the brushes may not wear them out; and when the pattern is laid on the pasteboard, they slightly pass over it a brush full of colour, which, leaving it within the openings, forms the face or figure of the card.

Cards, upon sufficient security, may be exported without payment of the stamp duty; but for every pack sold without the label of the stamp office, in England, there is a penalty of 10 l.

CARDAMINE, LADY'S SMOCK, in botany, a genus of the tetradynamia-siliquosa class of plants, the corolla of which, consisting of four petals, is cruciform: these petals are oval, oblong, open, and terminating in erect ungues of double the length of the cup: the fruit is a long pod, of a compressed, cylindric shape, composed of two valves, and containing two cells, wherein are several roundish seeds.

CARDAMOM, *cardamomum*, in the materia medica, is distinguished into three kinds, exclusive of the amomum, which is evidently of the cardamom kind. They are called by the names of the great cardamom, or grain of paradise; the long or middle cardamom, and the lesser common cardamom of the shops.

The great cardamom is a large and oblong fruit, in shape and size much resembling a common fig, as growing on the tree, and not ripe: the seeds are smaller than pepper-corns, of an irregular angular figure; but the plant is not known.

The fruit of the middle cardamom is of an oblong and triangular figure, containing three distinct cells, wherein are seeds of an oblong, angular, and irregular form: the plant producing this seed, is said to be of the same genus with the small or common cardamom.

The fruit of the lesser cardamom is short, and of a trigonal form. It has three cells, containing seeds much like those of the middle cardamom.

This cardamom assists digestion, and strengthens the head and stomach: it is also a diuretic and carminative, and promotes the menses. It is seldom prescribed alone, unless for chewing, at the person's discretion.

CARDIA, in natural history, a genus of shell fish, the shell of which is formed of two ovals, and resembles the figure of a heart at cards: the valves are equal and gibbose.

Of this genus there are several species, some nearly globose, others of a triangular figure, and others irregularly oblong. Under this genus are comprehended the cockles, ark shells, *&c.* together with the *pectines inauriti*, or scallops without ears, as they are called. See the articles COCKLE, SCALLOP, *&c.*

CARDIAC, an appellation given to such medicines

medicines as preserve or increase the strength of the heart, and by that means the vital forces, though they do not immediately work upon the heart, nor are particularly appropriated to the corroboration of that part. This effect they perform either by replenishing the exhausted vessels with good humours, or exciting motion where it is required. Therefore nutritives duly chosen with respect to particular constitutions, belong to this class, as well as astringent corroboratives and stimulants. All the modern dispensatories are full of cardiacs or cordials, both of the dry and liquid kind; but the best are those which remove the disorder, of which lowness of spirits is the consequence; and next to these is wine, which administered in proper quantities, and more or less diluted as circumstances require, will generally answer better purposes than more pompous cordials, whilst it is less capable of doing mischief.

CARDIACUS PLEXUS, in anatomy, a plexus or piece of net-work, formed of a ramification of the par vagum, or eighth pair of nerves.

CARDIALGIA, the HEART-BURN, in medicine, a disorder of the stomach attended with anxiety, a nausea, and often a reaching or actual vomiting.

The causes of this disorder, are either vitiated humours in the stomach, which occasion a nausea and vomiting, or in the common heart-burns, wind, indigestion, and now and then worms. But more frequently a cardialgia proceeds from congestions of blood about the stomach, which happen to those who are full of blood, but more especially to hypochondriac and hysterical persons.

The cure of a common heart-burn from indigestion, and the acrimony of the contents of the stomach, may be performed by drinking tea, or a decoction of camomile-flowers; as also by taking bitters, or the testaceous and absorbent powders. When it arises from a crapula, gentle emetics will be useful; and if it proceeds from a congestion of blood, bleeding will be convenient, after which antispasmodics are to be given.

If it is occasioned by acute stomachic fevers, rhubarb or ipecacuanha, in a moderate dose, may be prescribed; and if by worms, it must be treated with medicines proper for killing worms.

CARDIFF, a borough-town of Glamorganshire, in south Wales, situated on the river Tave, about two miles south-east of Landaff; west longitude 3° 20′, north latitude 51° 30′.

It sends only one member to parliament.

CARDIGAN, the capital of Cardiganshire, near the mouth of the river Tivy and the irish channel, about thirty miles north of Pembroke; west long. 4° 40′, north lat. 52° 15′.

It gives the title of earl to the noble family of Brudenel, and sends only one member to parliament.

CARDINAL, in a general sense, an appellation given to things on account of their preheminence: thus we say, cardinal winds, cardinal virtues, &c.

The cardinal virtues are these four, justice, prudence, temperance, and fortitude, upon which all the rest hinge.

CARDINAL POINTS, in cosmography, are the four intersections of the horizon with the meridian, and the prime vertical circle. See the article POINT.

Of these two, *viz.* the intersections of the horizon and meridian are called north and south, with regard to the poles they are directed to. See the article MERIDIAN.

The other two, *viz.* the intersections of the horizon and first vertical, are called east and west. The cardinal points therefore coincide with the four cardinal regions of the heavens, and are 90° distant from each other. The intermediate points are called collateral points.

CARDINAL POINTS of a nativity, are the rising and setting of the sun, the zenith and nadir.

CARDINAL WINDS, these that blow from the cardinal points.

CARDINAL SIGNS in the zodiac, are Aries, Libra, Cancer, and Capricorn.

CARDINAL NUMBERS, in grammar, are the numbers, one, two, three, &c. which are indeclinable, in opposition to the ordinal numbers, first, second, third, &c. See the article NUMBER.

CARDINAL, more particularly, signifies an ecclesiastical prince in the romish church, being one who has a voice in the conclave at the election of a pope. The cardinals were originally nothing more than deacons, to whom was intrusted the care of distributing the alms to the poor of the several quarters of Rome; and as they held assemblies of the poor in certain churches of their several districts, they took the title of these churches. They began to be called cardinals in the year 300, during the pontificate of St. Sylvester, by which appellation was meant

the

Fig. 1. CARDUUS, *THISTLE.*

Fig. 2. CARIGUEIA.



T. Jefferys sculp.

the chief priests of a parish, and next in dignity to a bishop. This office grew more considerable afterwards, and by small degrees arrived at its present height, in which it is the reward of such as have served his holiness well, even princes thinking it no diminution of their honour, to become members of the college of cardinals.

The cardinals compose the pope's council, and till the time of Urban VIII. were stiled *most illustrious*; but by a decree of that pope in 1630, they had the title of *eminence* conferred upon them.

At the creation of a new cardinal, the pope performs the ceremony of shutting and opening his mouth, which is done in a private consistory. The shutting his mouth, implies the depriving him of the liberty of giving his opinion in congregations; and the opening his mouth, which is performed fifteen days after, signifies the taking off this restraint. However, if the pope happens to die during the time a cardinal's mouth is shut, he can neither give his voice in the election of a new pope, nor be himself advanced to that dignity.

The cardinals are divided into six classes or orders, consisting of six bishops, fifty priests, and fourteen deacons, making in all seventy; which constitute the sacred college. The number of cardinal-bishops has very seldom been changed, but that of priests and deacons, have varied at different times.

The privileges of the cardinals are very great: they have an absolute power in the church during the vacancy of the holy see: they have a right to elect the new pope, and are the only persons on whom the choice can fall: most of the grand offices in the court of Rome, are filled by cardinals. The dress of a cardinal is a red soutanne, a rochet, a short purple mantle, and the red hat. When they are sent to the courts of princes, it is in quality of legates *a latere*; and when they are appointed governors of towns, their government is called by the name of legation.

CARDINAL is also a title given to some bishops, as those of Mentz and Milan, to the archbishop of Bourges; and the abbot of Vendome calls himself cardinalis natus.

CARDINAL is likewise a title applied to secular officers. Thus the prime ministers in the court of the emperor Theodosius, were called cardinales.

CARDING, the combing and preparing of wool, cotton, flax, &c. with the instruments called cards. See CARD.

Before wool be carded, it must be greased with oil, of which one fourth part of the weight of the wool is required for that which is designed for making the woof of stuffs, and the eight part for that of the warp.

CARDIOID, in the higher geometry, an algebraical curve, so called from its resemblance to a heart; for the description and properties of which, see the Philosophical Transactions, N° 461.

CARDIOSPERMUM, in botany, a genus of the octandria-trigynia class of plants, the flower of which consists of four petals, and is cruciform; the fruit is a roundish trilocular capsule, containing a single cordated seed.

CARDO, in anatomy, a name given to the second vertebra of the neck. See the article AXIS.

CARDONNA, a city of Catalonia, in Spain, situated on a river of the same name, about forty miles north-west of Barcelona; east longitude 1° 20′, north latitude 41° 35′.

CARDUEL, a province of Georgia, in Asia, lying between the Caspian and Euxine seas, the capital whereof is Teflis. It belongs partly to the Turks, and partly to the Persians.

CARDUUS, the THISTLE, in botany, a genus of the syngenesia-polygamia-æqualis class of plants, the compound flower of which is tubulous and uniform, the proper flower is monopetalous, of a funnel form, with a very small tube and erect limb, and divided into five linear equal segments. There is no pericarpium, but the cup is a little connivent, and contains solitary, vertically-ovated, quadrangular seeds, with two opposite angles obliterated, and crowned with a very long down. See plate XXXVII. fig. 1.

CARDUUS BENEDICTUS, in the materia medica, a species of the carduus, which has been celebrated by the writers of the earlier ages as alexiterial, sudorific and cordial. At present, however, the greatest use made of it, is by way of infusion, for working off an emetic. The seeds have been recommended in emulsions, for promoting the eruptions of the pustules in the small-pox; and the simple water in the shops, being found to have little or nothing of the virtues of the plant, has been of late wholly disused.

CARDUUS FULLONUM, a name by which the

the dipsacus, or teazel, is sometimes called. See the article DIPSACUS.

CAREENING, in the sea-language, the bringing a ship to lie down on one side, in order to trim and caulk the other side. A ship is said to be brought to the careen, when the most of her lading being taken out, she is hauled down on one side by a small vessel as low as necessary; and there kept by the weight of the ballast, ordnance, &c. as well as by ropes, left her masts should be strained too much; in order that her sides and bottom may be trimmed, seams caulked, or any thing that is faulty under water, mended. Hence when a ship lies on one side when she sails, she is said to sail on the careen.

CAREER, in the manege, signifies the ground that is proper for the manege, and the course or race of a horse that does not go beyond two hundred paces.

In the antient circus, the career was the space the chariots were to run at full speed to carry the prize. See the article CIRCUS.

CARELIA, in geography, a province of Finland, bounded by the province of Savolaxia on the north, and by the gulph of Finland on the south. It is subject to Russia.

CARELSCROON, a port-town of the province of Gothland, in Sweden, situated on the coast of the Baltic; east long. 15°, and north latitude 56° 20′.

It is an excellent harbour, where the Swedes lay up their royal navy.

CARENTAN, a town of Normandy, in France, situated at the mouth of a river of the same name; west longitude 1° 15′, and north latitude 49° 20′.

CARESEN, or CASSEEN, a sea-port town of Arabia Felix, situated on the Indian ocean; east longitude 52°, and north latitude 16°.

CARET, among grammarians, a character marked thus ‸, signifying that something is added on the margin, or interlined, which ought to have come in where the caret stands.

CAREX, in botany, a genus of the monoecia-triandria class of plants: in the male flower, there is no corolla; in the female, there are no petals; but the nectarium is of an ovato-oblong form, inflated, bidentated at the top: there is no pericarpium; but the nectarium, growing large, contains a single ovato-acute triquetrous seed, with one of its angles less than the rest.

CARGADORS, a name which the Dutch give to those brokers, whose business is to find freight for ships outward bound, and to give notice to the merchants, who have commodities to send by sea, of the ships that are ready to sail, and of the places for which they are bound.

CARGAPOL, or KARGAPOL, the capital of a territory of the same name, in the province of Dwina, in Muscovy; east longitude 36°, and north latitude 63°.

CARGO denotes all the merchandizes and effects which are laden on board a ship, exclusive of the crew, rigging, ammunition, provisions, guns, &c. though all these load it sometimes more than the merchandizes.

We say that a ship has its cargo, when it is as full of merchandize as it can hold; that it has half its cargo, when it is but half full; that it brings home a rich cargo, when it is laden with precious merchandize, and in great quantity; that a merchant has made the whole cargo of the ship, or only one half, or one quarter of the cargo, when he has laden the whole ship at his own expence, or only one half, or one fourth of it.

Disposing of any part of the cargo, before the vessel reaches her intended port, is called breaking bulk. See the article BREAKING BULK.

Super-CARGO, a person employed by merchants to go a voyage, and oversee the cargo, and dispose of it to the best advantage.

CARIATI, a town of the hither Calabria, in Italy, situated on the gulph of Taranto; east longitude 17° 20′, and north latitude 39° 20′.

It is a bishop's see.

CARIBBE-ISLANDS, a cluster of islands, situated in the Atlantic ocean, between 59° and 63° west longit. and between 11° and 18° north lat.

CARIBBIANA, or CARIBIANA, the north-east coast of Terra-firma, in south America, otherwise called New-Andalusia. See the article ANDALUSIA.

CARICA, the PAPAW-TREE, in botany, a genus of the dioecia-decandria class of plants, the male flower of which is monopetalous, of a funnel-form, with a limb divided into five lanceolato-linear, obtuse, obliquely spiral segments: the female flower is pentapetalous, the petals being lanceolato-linear, obtuse on both sides, very long, erect below the middle, but above the middle bending outwards and downwards: the fruit is a very large berry, angulated with five furrows, having

ing one cell, and containing numerous, ovated, fulcated, and tunicated feeds.

CARICA is alfo a name ufed by medical writers for the fruit of the fig-tree. See the articles FIG and FICUS.

CARICATURA, in painting, denotes the concealment of real beauties, and the exaggeration of blemifhes, but ftill fo as to preferve a refemblance of the object.

CARICOUS, an epithet given to fuch tumours as refemble the figure of a fig. They are frequently found in the piles.

CARIES, in furgery, the corruption of a bone, when it is deprived of its periofteum, and having loft its natural heat and colour, becomes fatty, yellow, brown, and at laft black.

A caries may be diftinguifhed into two forts, the firft, where the diforder begins in the internal part of the bone. See the article SPINA VENTOSA.

The other, when it begins on the outfide, or from an external caufe.

We find two caufes of the caries of a bone, one arifing from a wound, or any other accident, when the bone is expofed to the injuries of the external air, or is corrupted by unfkilfulnefs in dreffing; the other, when the fluids are interrupted in their circulation, by any external violence, or internal caufe whatfoever, from whence inflammation and fuppuration fucceed; by which the periofteum and bone lofing their nourifhment, on account of the veffels being inflamed and corrupted, quickly becomes carious; or from venereal caufes. Hence it appears that there are feveral degrees of a caries of the bone, but the worft kind is that which falls upon the joints, or any parts of the bone that lie deep, becaufe as there is no accefs to clean it, the cafe admits of no remedy but amputation of the limb. With regard to the cure of a caries, the mildeft method is applied to the flighteft degree, and is performed by the application of fpirituous remedies, or by balfamics. In a caries that penetrates fomewhat deeper, ftronger remedies take place, fuch as the pulvis euphorbii cum fpiritu vini optimo parato, aqua phagedænica, or a folution of mercury in aqua fortis, or fpirit of nitre; and when by thefe you have procured an exfoliation of the difeafed part, the cure is to be completed with balfamics. A fecond method confifts in perforating the bone, after it is laid bare with an inftrument; after which it is to be dreffed with dry lint, or balfamic medicines. A third method is performed by fcraping away the vitiated part of the bone with a rafpatory, or chiffel, till all the corrupted parts being deftroyed, the bone appears white or ruddy, and found. See the article TREPANNING.

The fourth, which is the moft ancient and moft certain method of cure, efpecially in the greater degrees of this diforder, is performed by burning down the vitiated part of the bone with the actual cautery; and in this operation great care muft be taken not to injure the flefh, or other foft parts that lie near it. In fine, the principal bufinefs in curing a caries of the bone confifts in a fpeedy extirpation of the carious parts of the bone, and the reft of the cure is performed in the fame manner as other ulcers are treated.

CARIGNAN, a fortified town of Piedmont, fituated on the river Po, about feven miles fouth of Turin; eaft longit. 7° 25′, and north lat. 44° 30′.

CARIGUEIA, or CARIGOI, in zoology, a fpecies of opoffum. See plate XXXVII. fig. 2. and the article OPOSSUM.

CARINA properly denotes the keel of a fhip. See the article KEEL.

CARINA, in architecture, a name given by the Romans to all buildings in the form of a fhip (from *carina*, the keel of a fhip), as we ftill ufe the word nave for *navis*, a fhip, the middle or principal vault of our churches, becaufe it has that figure.

CARINA, in anatomy, a term ufed for the fibrous rudiments, or embryo of a chick, appearing in an incubated egg.

The carina confifts of the intire vertebræ, as they appear after ten or twelve days incubation.

CARINA, in botany, the loweft petal of a papilionaceous flower. See the article PAPILIONACEOUS.

CARINTHIA, a dutchy in the circle of Auftria, in Germany, bounded by the archbifhopric of Saltzburg on the north, and by Carniola and the dominions of Venice on the fouth.

It is fubject to the houfe of Auftria.

CARIONOLA, a city of the province of Lavoro, in the kingdom of Naples, about twenty miles north of the city of Naples: eaft long. 15°, and north lat. 41° 20′. It is a bifhop's fee.

CARIPI, a kind of cavalry in the turkifh army.

The caripi, to the number of about one thoufand, are not flaves, nor bred up in the feraglio, like the reft, but are generally moors, or renegado chriftians, who, having followed adventures, and being poor,

poor, and having their fortune to ſeek by their dexterity and courage, have arrived to the rank of horſe-guards to the grand ſignior.

CARISBROOK-CASTLE, a caſtle ſituated in the middle of the iſle of Wight, where king Charles I. was impriſoned: weſt long. 1° 30′, and north lat. 50° 50′.

CARLINA, the CARLINE-THISTLE, in botany, a genus of the ſyngeneſia-polygamia-æqualis claſs of plants: the compound flower is uniform and tubuloſe; the partial flower conſiſts of a ſingle funnel-faſhioned petal, with a ſmall tube; the limb is campanulated, and divided into five ſegments: it has no pericarpium: the ſeeds are ſingle, roundiſh, and hairy. See plate XXXVII. fig. 3.

CARLINE, or CAROLINE, a ſilver coin current in the neapolitan dominions, and worth about four pence of our money.

CARLINE THISTLE, *carlina*. See the article CARLINA.

CARLINES, or CARLINGS, in a ſhip, two pieces of timber, lying fore and aft, along from beam to beam, whereon the ledges reſt on which the planks of the ſhip are faſtened. All the carlings have their ends let into the beams culvertail-wiſe: they are directly over the keel, and ſerve as a foundation for the whole body of the ſhip.

CARLISLE, a city in Cumberland, ſituated near the mouth of the river Eden, and the Solway frith; weſt longitude 2° 30′, and north latitude 54° 45′.

It is a biſhop's ſee.

CARLOCK, in commerce, a ſort of iſinglaſs made with the ſturgeon's bladder, imported from Archangel. The chief uſe of it is for clarifying wine; but it is alſo uſed by dyers. The beſt carlock comes from Aſtracan, where a great quantity of ſturgeon is caught.

CARLOWITZ, a town of Sclavonia, ſituated on the weſt ſide of the Danube, about thirty-five miles north-weſt of Belgrade; eaſt long. 20° 45′, and north lat. 45° 25′.

CARLETADT, the capital of Croatia, a frontier province of chriſtendom againſt the Turks: eaſt longitude 16°, and north latitude 45° 5′.

It is ſubject to the houſe of Auſtria.

CARLSTADT is alſo the name of a town in the biſhopric of Wurtſburg, in the circle of Franconia, in Germany, ſituated on the river Maine, about fourteen miles north of Wurtſburg: eaſt longitude 9° 50′, and north latitude 50°.

CARMAGNIOL, a fortified town of Piedmont, ſituated on the river Po, about ten miles ſouth of Turin; eaſt longitude 7° 30′, and north latitude 44° 45′.

CARMELITES, or WHITE-FRIERS, are an order of our lady of mount Carmel, making one of the four orders of mendicants. They pretend to derive their original from the prophets Elijah and Eliſha. Their original rules contained ſixteen articles, one of which confined them to their cells, and enjoined them to employ themſelves day and night in prayer; another prohibited the brethren having any property; another enjoined faſting, from the feaſt of the exaltation of the holy croſs till eaſter, excepting on Sundays; abſtinence at all times from fleſh, was enjoined by another article; one obliged them to manual labour; another impoſed a ſtrict ſilence on them, from veſpers till the tierce the next day: however, theſe conſtitutions have been in ſome reſpects altered.

This order is ſo much increaſed, that it has at preſent thirty-eight provinces, beſides the congregation of Mantua (in which there are fifty-four monaſteries, under a vicar-general) and the congregation of bare-footed carmelites in Italy and Spain, which have their peculiar generals.

The barefooted carmelites are a reform of the antient carmelites, ſet on foot in 1540, by S. Thereſa, and ſo called from their going barefooted.

If a monk of this order lie with a woman, he is prohibited ſaying maſs for three or four years, is declared infamous, and obliged to diſpciline himſelf publicly once a week: if he is again guilty of the ſame offence, his penance is doubled: and if a third time, he is expelled the order.

Knights of the order of our lady of mount CARMEL, a military order inſtituted by Henry IV. ſirnamed the Great, of France, in honour of the bleſſed Virgin, and incorporated into the order of knights of St. Lazarus of Jeruſalem.

CARMEN, a latin term, uſed, in a general ſenſe, to ſignify a verſe; but in a more peculiar ſenſe, to ſignify a ſpell, charm, form of expiation, execration, &c. couched in few words, placed in a myſtic order, on which its efficacy was ſuppoſed to depend.

CARMENTALIA, feaſts celebrated by the Romans, in honour of the propheteſs Carmenta, the mother of Evander.

They were ſolemnized twice in the month of January, *viz.* on the 11th and 15th.

Theſe

These feasts were established on account of a great fecundity among the Roman dames, after a general reconciliation with their husbands, with whom they had been at variance, in regard to the use of coaches being prohibited them by an edict of the senate. It was the women who celebrated these feasts.

CARMINATIVES, in pharmacy, medicines used in colics, or other flatulent disorders, to dispel the wind.

A great many seem to be strangers to this term, as it does not appear to carry in it any thing expressive of the medicinal efficacy of those simples which pass under its denomination. This term had certainly its rise, when medicine was too much in the hands of those jugglers, who, for want of true knowledge in their profession, brought religion into their party; and what through their ignorance they were not able to do by rational prescription, they pretended to effect by invocation and their interest with heaven. Which cant being generally, for the surprize sake, couched in some short verses, the word *carmen*, which signifies a verse, was used also to mean an inchantment: which was frequently made use of to satisfy the people of the operation of a medicine they could not account for. And as those medicines now under this name are of quick efficacy; and the consequences thereof, in many instances, surprizng; and the most violent pains, sometimes arising from pent up wind, immediately ceasing upon its dispersion; such medicines as give relief, in this case, are more properly termed carminatives, as if they cured by inchantment.

How they expel wind may be conceived, when we consider that all the parts of the body are perspirable. Sanctorius, in his Medicina Statica, determines all we call wind in the bowels to be such perspirable matter as makes its escape thro' the coats of the stomach and intestines. Between the several membranes likewise of the muscular parts may such matter break out, and lodge for some time. Now whatsoever will rarefy and render such collections of vapours thinner, must conduce to their utter discharge out of the body; and consequently remove those uneasinesses, which arise from their detention. And as all those things that pass under this denomination are warm, and consist of very light subtile parts, it is easy to conceive how a mixture of such particles may agitate and rarefy those flatulencies, so as to facilitate their expulsion; especially considering those grateful sensations which such medicines give to the fibres; which cannot but invigorate their tonic undulations so much, that by degrees the obstructed wind is dislodged, and at last quite expelled. But if the obstruction be not great, the rarefaction of the wind upon taking such a medicine is often so sudden, and likewise its discharge, that it goes off like the explosion of gunpowder.

All the things under this class, being warm and discussive, are much used in the composition of cathartics, of the rougher sort especially. For the irritation occasioned by those would be scarce tolerable without the mitigation of such grateful ingredients. Many likewise of this sortment are in the composition of discussive topics.

The four carminative flowers are those of camomile, melilot, motherwort, and dill; besides, angelica, fennel, lovage, anise, caraway, coriander, cummin, *&c.* all agree in their carminative qualities, and are therefore used in compositions of that intention.

CARMINE, a powder of a very beautiful red colour, bordering upon purple, and used by painters in miniature; though but rarely, because of its great price.

It is extracted from cochineal, by means of water, wherein chouan and antour have been infused; some add rocou, but this gives it too much of the oval cast. Others make carmine with brasil-wood, fernambouc, and leaf-gold, beat in a mortar, and steeped in white-wine vinegar; the scum arising from this mixture, upon boiling, when dried, makes carmine; but this kind is vastly inferior to the former: there is another carmine, made of brasil-wood and fernambouc, by a different preparation.

CARMONA, a town of Andalusia, in Spain, about seventeen miles east of Sevil; west longitude 5° 35′, and north latitude 37° 20′.

CARNARVON, a borough-town of Carnarvonshire, in north Wales, about five miles south-west of Bangor: west long. 4° 25′, and north latitude 53° 20′.

It gives the title of earl to the noble family of Bridges; and sends one member to parliament.

CARNATION, in botany, a name given to several species of dianthus or pink, on account of their beautiful flesh-colour.

CARNATION-COLOUR, among painters, is under-

understood of all the parts of a picture, in general, which represent flesh, or which are naked and without drapery.

In colouring for flesh, there is so great a variety, that it is hard to lay down any general rules for instruction therein; neither are there any regarded by those who have acquired a skill this way: the various colouring for carnations, may be easily produced, by taking more or less red, blue, yellow, or bistre, whether for the first colouring, or for the finishing: the colour for women should be bluish, for children a little red, both fresh and gay; and for the men it should incline to yellow, especially if they are old.

CARNATION, among dyers. To dye a carnation, or red rose-colour: take liquor of wheat bran, a sufficient quantity; alum, three pounds; tartar, two ounces; boil them, and enter twenty yards of broad cloth; boil three hours; cool, and wash it: take fresh, clear bran-liquor, a sufficient quantity; madder, five pounds; boil and sadden according to art.

The Bow-dyers know that the solution of jupiter, or delved tin, being put in a kettle to the alum and tartar (in another process) make the cloth, &c. attract the colour into it, so that none of the cochineal is left, but all drawn out of the water into the cloth.

CARNEIA, Καρνεια, in antiquity, a festival in honour of Apollo, surnamed Carneus, held in most cities of Greece, but especially at Sparta, where it was first instituted. The reason of the name, as well as the occasion of the institution, is controverted. It lasted nine days, beginning on the 13th of the month Carneus. The ceremonies were an imitation of the method of living, and discipline used in camps. Nine σκιαδες, or tents, were erected, in each of which nine men of three different tribes lived the space of nine days, during which time they were obedient to a public crier, and did nothing without express order from him. The chief priest who attended this solemnity was named Agetes; besides whom, there were five ministers called *carneatæ*, who were obliged to hold their office four years, and to remain batchelors during that time.

CARNEL, among ship-carpenters. The building of ships, first with their timbers and beams, and after bringing on their planks, is called carnel-work, to distinguish it from clinch-work.

CARNELIAN, *sarda*, in natural history, a precious stone, of which there are three kinds, distinguished by three colours, a red, a yellow, and a white. Authors have attributed medicinal virtues to the red carnelian; this, therefore, is to be understood the *sarda*, or carnelian of the shops. It is very well known among us, is found in roundish or oval masses, much like our common pebbles; and is generally met with between an inch and two or three inches in diameter: it is of a fine, compact, and close texture, of a glossy surface; and, in the several specimens, is of all the degrees of red, from the palest flesh-colour to the deepest blood-red. It is generally free from spots, clouds, or variegations; but sometimes it is veined very beautifully with an extremely pale red, or with white; the veins forming concentric circles, or other less regular figures, about a nucleus, in the manner of those of agates. The pieces of carnelian which are all of one colour, and perfectly free from veins, are those which our jewellers generally make use of for seals, though the variegated ones are much more beautiful. The carnelian is tolerably hard, and capable of a very good polish: it is not at all affected by acid menstruums: the fire divests it of a part of its colour, and leaves it of a pale red; and a strong and long continued heat will reduce it to a pale dirty grey.

The finest carnelians are those of the East-Indies; but there are very beautiful ones found in the rivers of Silesia and Bohemia; and we have some not despicable ones in England.

Though the antients have recommended the carnelian as an astringent, and attributed a number of fanciful virtues to it, we know no other use of the stone, than the cutting seals on it, to which purpose it is excellently adapted, as being not too hard for cutting, and yet hard enough not to be liable to accidents, to take a good polish, and to separate easily from the wax.

CARNIOLA, a territory of Austria, in Germany, bounded by Carinthia and Stiria on the north, and by the dominions of Venice on the south.

CARNIVAL, or CARNAVAL, a time of rejoicing, a season of mirth, observed with great solemnity by the Italians, particularly at Venice, holding from twelfthday till lent.

Feasts, balls, operas, concerts of music, intrigues, marriages, &c. are chiefly held in

in carnival-time. The carnival begins at Venice the fecond holiday in chriftmas: then it is they begin to wear mafks, and open their play-houfes and gaming-houfes; the Place of St. Mark is filled with mountebanks, jack-puddings, pedlars, whores, and fuch like mob, who flock thither from all parts: there have been no lefs than feven foreign princes, and thirty thoufand foreigners here, to partake of thefe diverfions.

CARNIVOROUS, an appellation given to animals which naturally feed on flefh, and thence called beafts or birds of prey. Some will have it, that no quadrupeds are naturally carnivorous but thofe furnifhed with canine or dog-teeth: on which principle mankind are excluded out of the number of naturally carnivorous animals; and, in fact, animal food muft undergo various preparations before it is fit for the ufe of man.

To the arguments ufed by Dr. Wallis and others, to prove that man is not naturally carnivorous, Dr. Tyfon anfwers, that if man had been defigned by nature not to be carnivorous, there would doubtlefs have been found fomewhere in the globe, people who do not feed on flefh; and as hiftory feems not to furnifh any inftance hereof, may not we fay, that what is done univerfally by the whole fpecies, is natural? For what the Pythagoreans did in abftaining from flefh, was on the principle of a tranfmigration, a miftake in their philofophy, not a law of nature: and though in fome countries, men feed more fparingly on flefh than in others, this is owing to their own choice, from the advantage they perceive by it. That carnivorous animals are not always without a colon and cæcum; nor are all animals carnivorous which have thofe parts; but that the carigueya, or opoffum, for inftance, has both a colon and a cæcum, yet feeds on poultry, and other flefh; whereas the hedge-hog has neither colon nor cæcum, and therefore ought to be carnivorous, yet it feeds only on vegetables; add, that hogs, which have both, will feed on flefh greedily enough when they can get it; and that rats and mice, which have large cæcums, feed on bacon, as well as bread and cheefe. That from the multitude of carnivorous animals which want thofe parts, and of non-carnivorous which have one or both, no fafe conclufion can be drawn; fince we might as well argue, that becaufe the neat-kind, ftag-kind, goat-kind, and fheep-kind, which live on herbage, have four ftomachs, therefore all thofe which have not four ftomachs were not defigned by nature to be graminivorous; whereas the horfe-kind and hare-kind have but one ftomach, yet feed on grafs like the former: add, that in many animals which live on the fame fort of food, the ftructure of the ftomach is found very different; and that in others which live on different foods, *ex. gr.* on flefh, on fruits, on grafs, *&c.* the ftomachs are found fo like, that it is difficult to affign any difference between them; and if we cannot make a judgment what food is moft natural to an animal from the ftructure of its ftomach, which is the part moft concerned in digefting it, much lefs can we judge from the colon or cæcum, which are parts remote from the ftomach, and rather feem as a cloaca for the reception of the fæces, than of ufe for digefting or diftributing the food. In fine, fince man has all manner of teeth, fit for the preparation of all forts of foods, fhould it not rather feem that nature intended we fhould live on all? And as the alimentary duct in the human-kind is fitted for digefting all forts of food, may we not rather conclude that nature did not intend to deny us any?

CARNIUS, in chronology, the fyracufian name for the athenian month metagitnion; which was the fecond of their year, and anfwered to the latter part of our July, and begining of Auguft.

CARNOSE, or CARNOUS, in a general fenfe, fomething belonging to or abounding with flefh. Hence,

CARNOSE LEAF is one full of pulp, contained between the inveftient membranes.

CARNOSE MUSCLE. See PYRAMYDALIS.

CARNOSE PANNICLE. See the article PANNICULUS CARNOSUS.

CARNOSITY, a term fometimes ufed for an excrefcence, or tubercle, in the urethra, the neck of the bladder, or yard, which ftops the paffage of the urine. Carnofities are very difficult of cure: they are not eafily known, but by introducing a probe into the paffage, which there meets with refiftance. They ufually arife from fome venereal malady ill managed.

CARO, FLESH, in anatomy. See the article FLESH.

CARO MUSCULOSA QUADRATA, in anatomy, the fame with the *pulmaris brevis.* See the article PULMARIS.

CAROB-TREE, the english name of the filiqua, or ceratonia, of botanifts. See the article CERATONIA.

CAROLINA, a province of North America, belonging to Great Britain: it is fituated, comprehending Georgia, between 75° and 86° weft longit. and between 31° and 36° north latitude; and bounded by Virginia on the north, by the Atlantic ocean on the eaft, by fpanifh Florida on the fouth, and by the apalachian mountains on the weft; or rather extends weftward, without any limits. It is divided into three diftinct governments, *viz.* North and South Carolina, and Georgia.

CAROLINE-BOOKS, the name of four books, compofed by order of Charlemagne, to refute the fecond council of Nice.

Thefe books are couched in very harfh and fevere terms, containing one hundred and twenty heads of accufation againft the council of Nice, and condemning the worfhip of images.

CAROLSTAT, a town of Gothland, in Sweden, fituated at the north end of the Wener-lake, about one hundred and forty miles weft of Stockholm: eaft longitude 13° 30′, and north latitude 59° 40′.

CAROLUS, an antient englifh broad piece of gold, ftruck under Charles I. its value has of late been at twenty-three fhillings fterling, though at the time it was coined, it is faid to have been rated at only twenty fhillings.

CAROLUS, a fmall copper coin, with a little filver mixed with it, ftruck under Charles VIII. of France.

The carolus was worth twelve deniers, when it ceafed to be current.

Thofe which are ftill current in trade, in Lorrain, or in fome neighbouring provinces, go under the name of french fols.

CAROTEEL, in commerce, an uncertain weight or quantity of goods: thus a caroteel of cloves is from four to five hundred weight; of currans, from five to nine; of mace, about three hundred; of nutmegs, from fix to feven hundred and a half.

CAROTIDS, in anatomy, two arteries of the neck, which convey the blood from the aorta to the brain, one called the right carotid, and the other the left: they arife near each other, from the curvature of the aorta, and run upon each fide of the arteria trachea, between it and the internal jugular vein, as big as the larynx, without any ramification; each of thefe is then ramified into two branches, one named internal, the other external. The internal carotid-artery having paffed the great canal of the apophyfis petrofa of the os temporis, fends off a branch thro' the fphenoidical fiffure to the orbit of the eye, and foon afterwards another thro' the foramen opticum, by which it communicates with the external carotid. The external is the fmalleft; it runs between the external angle of the lower jaw, and the parotid gland; afterwards it afcends on the fore fide of the ear, and ends in the temples. All the ramifications of the carotids are covered by the pia mater, in the duplicature of which they are diftributed, and form capillary, reticular textures in great numbers; afterwards they are loft in the inner fubftance of the brain. See the article ARTERY.

CARP, in ichthyology, the englifh name of the cyprinus, with four cirri, or beards, and the third ray of the back-fins armed with fmall hooks.

The carp is generally taken for the queen of frefh-water fifh; it is fubtle, and lives the longeft of all fifh, except the eel, out of its proper element. It is obferved to breed feveral months in one year; for which reafon you hardly ever take either male or female without melt or fpawn; but they breed more naturally in ponds, than in running water, and in the latter very feldom or never. In the places they frequent, their ftock is innumerable. To make a carp fat and very large, rake all the fides of your pond, when the water is fallen away, about April, then fow hay feeds, the growth of which, when the winter comes, and overflows it, will feed them, and make them very fat.

CARPA, and CARPANUS, the fame with carp. See the preceding article.

CARPATHIAN MOUNTAINS, thofe dividing Hungary and Tranfilvania from Poland.

CARPENTER, an artificer in wood, defigned for the purpofes of building. See the article CARPENTRY.

Ship-CARPENTER, one employed in building or repairing fhips. See the article *Conftruction of* SHIPS.

CARPENTRAS, a city of Provence, in France, about feventeen miles north-eaft of Avignon: weft longitude 5°, and north latitude 44° 10′.

It is fubject to the pope.

CARPENTRY, the art of cutting, framing, and joining large pieces of wood, for the ufes of building. It is one of the

arts

arts ſubſervient to architecture, and is divided into houſe-carpentry and ſhip-carpentry: the firſt is employed in raiſing, roofing, flooring of houſes, &c. and the ſecond in the building of ſhips, barges, &c. the rules in carpentry are much the ſame with thoſe of joinery; the only difference is, that carpentry is uſed in the larger coarſer work, and joinery in the ſmaller and curious. See JOINERY.

CARPESIUM, in botany, a genus of the ſyngeneſia polygamia ſuperflua claſs of plants, the common calyx of which is an imbricated perianthium; the compound flower is equal; the ſtamina of the hermaphrodite flower are five, ſhort filaments; the antheræ form a cylinder; there is no pericarpium, but the ſeed, which is oblong and compreſſed, is lodged in the cup.

CARPET, a ſort of covering of ſtuff, or other materials, wrought with the needle or on a loom, which is part of the furniture of a houſe, and commonly ſpread over tables, or laid upon the floor.

Perſian and Turkey carpets are thoſe moſt eſteemed; tho' at Paris there is a manufactory after the manner of Perſia, where they make them little inferior, not to ſay finer, than the true Perſian carpets. They are velvety, and perfectly imitate the carpets which come from the Levant. There are alſo carpets of Germany, ſome of which are made of woolen ſtuffs, as ſerges, &c. and called ſquare carpets: others are made of wool alſo, but wrought with the needle, and pretty often embelliſhed with ſilk; and laſtly, there are carpets made of dog's hair. We have likewiſe carpets made in England, which are uſed either as floor-carpets, or to make chairs and other houſhold-furniture: it is true we are not arrived at the like perfection in this manufacture with our neighbours the French; but may not this be owing to the want of the like public encouragement?

CARPI, a town of the Veroneſe, in Italy, ſituated on the river Adige, twenty-four miles ſouth-eaſt of Verona: eaſt longitude 11° 40′, and north latitude 45° 10′.

CARPI is alſo the name of a city of the dutchy of Modena: eaſt longitude 11° 10′, and north latitude 40° 40′.

CARPINUS, the HORN-BEAM, in botany, a genus of plants belonging to the monoecia-polyandria claſs; in the male flower there is no corolla, nor in the female; but the male flowers are arranged into a cylindric amentum, and the female into an oblong one; there is no pericarpium, but the amentum, growing very large, contains at the baſe of each ſquamula, an oval, angulated nut.

CARPOBALSAM, in the materia medica, the fruit of the tree which yields the true oriental balſam.

The carpobalſam is uſed in Egypt, according to Proſper Alpinus, in all the intentions for which the balſam itſelf is applied: but the only uſe the Europeans make of it is in venice-treacle and mithridate, and in theſe not a great deal; for cubebs and juniper-berries are generally ſubſtituted in its place.

CARPOCRATIANS, heretics, who ſprung up towards the middle of the IId. century, being a branch of the antient gnoſtics. They held a community of wives; and maintained, that a man cannot arrive at perfection, without having paſſed through all criminal actions; laying down as a maxim, that there is no action bad in itſelf, but only from the opinion of men. Accordingly they are charged with committing the moſt infamous actions at their love feaſts. They attributed the creation of the world to angels; they ſaid, that Jeſus was born in a manner like other men; they rejected the reſurrection of the body; and they marked their diſciples at the bottom of the right ear with a hot iron, or with a razor.

CARPUS, the WRIST, in anatomy. See the article WRIST.

CARR, among the antients, a kind of throne mounted on wheels, and uſed in triumphs and other ſolemn occaſions.

The carr on medals, drawn by horſes, lions, or elephants, ſignifies a triumph, or an apotheoſis; ſometimes a proceſſion of the images of the gods at a ſolemn ſupplication; and ſometimes of thoſe of ſome illuſtrious families at a funeral. The carr, covered and drawn by mules, only ſignifies a conſecration, and the honour done any one of having his image carried at the games of the circus.

CARRAC, the name of the veſſels employed by the Portugueſe in the eaſt india and braſilian trade: they are very large, and fitted for fighting as well as for burden.

CARRAT, or CARACT. See the article CARACT.

CARRIAGE, a vehicle ſerving to convey perſons, goods, merchandizes, and other things from one place to another.

There are public and private carriages, as alſo water and land-carriages. Water-

ter-carriages, in general, are thofe veffels which ferve to carry perfons or merchandize by fea, rivers, lakes, *&c.* as fhips, barks, wherries, boats, *&c.* Land-carriages are machines invented to carry more conveniently, and in greater number, perfons or goods. Thofe moftly ufed in Europe, are coaches, chariots, calafhes, berlins, waggons, with four wheels, chaifes, carts, and drays with two wheels, all drawn by horfes, mules, buffaloes, oxen, *&c.* and in Lapland and Siberia by rein-deer. See the articles COACH, CHARIOT, *&c.*

All thefe animals are alfo proper to carry burdens on their backs, in which manner the camels and dromedaries are employed in the caravans of Afia and the caffias of Africa. See the articles CARAVAN and CAFFILA.

In fome parts of America, the vigoonas, lamas, and alpagnas are ufed as carriage-beafts. Laftly, the fedan-chair, carried by two men, and the palanquin carried on the fhoulders of two, four, or fix men, are alfo carriages, but ferve for perfons only. The former is ufed in many cities of Europe, and the latter in the Eaft-Indies.

Letter or bill of CARRIAGE, a writing given to a carrier or the mafter of any carriage, containing the number and quality of the pieces, bales, *&c.* of merchandizes, which he is intrufted with, that he may demand the payment of the carriage, and that the perfon, to whom they are addreffed, may fee whether they are delivered in the fame number, and in as good condition as they were given to the carrier.

CARRIAGE *of a cannon*, the frame or timber-work on which it is mounted, ferving to point it for fhooting, or to carry it from one place to another. It is made of two planks of wood, commonly one half the length of the gun, called the cheeks, and joined by three wooden tranfums, ftrengthened with three bolts of iron. It is mounted on two wheels; but on a march has too fore-wheels, with limbers added. The principal parts of a carriage are the cheeks, tranfums, bolts, plates, train, bands, bridge, bed, hooks, trunion-holes, and capfquare.

Block-CARRIAGE, a cart made on purpofe for carrying mortars and their beds from place to place.

Truck-CARRIAGE, two fhort planks of wood fupported on two axel-trees, having four trucks of folid wood for carrying mortars or guns upon battery, where their own carriages cannot go. They are drawn by men.

CARRIAGE, in agriculture, a furrow for the conveyance of water to overflow and improve the ground. It is diftinguifhed into two forts; the main carriage, which fhould be made with a convenient defcent; and the leffer carriages, which fhould be fhallow, and as many in number as poffible.

CARRICK, the moft foutherly divifion of the fhire of Aire, in Scotland.

CARRICK *on the Sure*, a town of Ireland, in the county of Tipperary, and province of Munfter, about fourteen miles north-weft of Waterford: weft longitude 7° 24′, and north latitude 52° 16′.

CARRICK-FERGUS, a town in the county of Antrim, and province of Ulfter, in Ireland, about eighty-five miles north of Dublin: weft longitude 6° 15′, and north latitude 54° 45′.

CARRIER, a perfon that carries goods for others, for his hire.

If a carrier receives goods to carry to fuch a place, and he carries them not thither, but to fome other place, he may be guilty of felony.

CARROT, *daucus*, in botany. See the article DAUCUS.

Carrots are the moft neceffary and univerfal roots this country affords: there are two forts of carrots, the yellow and the orange; the laft of which is by much the better: they thrive beft in a warm, light, or fandy foil. It is ufual to fow them with beans; fome of the faireft of them, being laid up in dry fand, will keep throughout the winter: thefe may be referved till the fpring, and planted for feed.

Deadly CARROT, the englifh name of the thapfia of authors. See THAPSIA.

CARROUSAL, a courfe of chariots and horfes, or a magnificent entertainment exhibited by princes on fome public rejoicing. It confifts in a cavalcade of feveral gentlemen richly dreffed and equipped, after the manner of antient cavaliers divided into fquadrons, meeting in fome public place, and practifing jufts, tournaments, *&c.*

The laft carroufals were in the reign of Lewis XIV.

CARRYING, a term ufed in the manege. Thus a horfe is faid to carry low, that has naturally a foft ill-fhaped neck, and lowers his head too much. And a horfe carries well, when his neck is raifed or arched;

arched, and when he holds his head high without conftraint, firm and well placed.

CARS, or KARS, a city of Turcomania, or the greater Armenia, fituated on a river of the fame name: eaft longitude 44°, and north latitude 41° 30′.

It is fubject to the Turks.

CARS, or CARS *of Gowry*, is alfo the name of a diftrict of Perthfhire, in Scotland, lying eaftward of Perth, on the northern bank of the Tay.

CART, a land carriage with two wheels, drawn commonly with horfes, to carry heavy goods, *&c.* from one place to another.

The ufe of carts being very common, and convenient for the carriage of all forts of commodities, the officers of the police in France, and even the king's council, have not judged it unworthy their care and attention to regulate the functions, and often fettle the price thereof.

Carts, in London and Weftminfter, are not to carry more than twelve facks of meal, or one chaldron of coals, on pain of forfeiting one of the horfes. The wheels are to be of a certain thicknefs, and without iron; and if any perfon ride in a cart, not having another to guide it, he fhall forfeit ten fhillings.

CART-WHEEL. See the article WHEEL.

CARTAMA, a town of Granada, in Spain, about ten miles north-weft of Malaga: weft longitude 4° 30′, and north latitude 36° 40′.

CARTEL, an agreement made between two ftates for the exchange of their prifoners of war.

CARTEL fignifies alfo a letter of defiance, or a challenge, to decide a controverfy, either in a tournament, or in a fingle combat. See the article DUEL.

CARTERET, a county of South Carolina, in North America.

CARTESIANS, a fect of philofophers, who adhere to the philofophy advanced by Des Cartes, and founded on the two following principles; the one metaphyfical, the other phyfical: the metaphyfical one is, *I think, therefore I am*; the phyfical principle is, *that nothing exifts but fubftance.* Subftance he makes of two kinds; the one a fubftance that thinks, the other a fubftance extended; whence actual thought and actual extenfion are the effence of fubftance. The firft of thefe articles is refuted by Mr. Locke, who fhews, that thinking is not effential to the foul, or that its effence does not confift in thought; the other is confuted from the principles of the Newtonian philofophy. See the article NEWTONIAN PHILOSOPHY.

The effence of matter being thus fixed in extenfion, the cartefians conclude, that there is no vacuum, nor any poffibility thereof in nature, but that the world is abfolutely full: mere fpace is precluded by this principle, in regard, extenfion being applied in the idea of fpace, matter is fo too.

Upon thefe principles, the cartefians explain mechanically, and according to the laws of motion, how the world was formed, and whence the prefent appearances of nature do rife. They fuppofe, that matter was created of an indefinite extenfion, and divided into little fquare maffes, full of angles; that the creator impreffed two motions on this matter; one whereby each part revolved round its center, another whereby an affemblage, or fyftem, turned round a common center; whence arofe as many different vortices as there were different maffes of matter, thus moving round common centers.

The confequences of this hypothefis, according to the cartefians, will be, that the parts of matter in each vortex could not revolve among each other, without having their angles gradually broken, and that this continual friction of parts and angles produced three elements; the firft, an infinitely fine duft, formed of the angles broken off; the fecond, the fpheres remaining, after all the angular irregularities are thus removed: thefe two make the matter of Des Cartes's firft and fecond element; and thofe particles not yet rendered fmooth and fpherical, and which ftill retain fome of their angles, make the third element.

Now, according to the laws of motion, the fubtileft element muft take up the center of each fyftem, being that which conftitutes the fun, the fixed ftars above, and the fire below; the fecond element, compofed of fpheres, makes the atmofphere, and all the matter between the earth and the fixed ftars, in fuch a manner as that the largeft fpheres are always next the circumference of the vortex or fyftem, and the fmalleft next its center; the third element, or the hooked particles, is the matter that compofes the earth, all terreftrial bodies, comets, fpots in the fun, *&c.* See the article VORTEX.

Though both philofophers and divines have

have a juſt plea againſt this romantic ſyſtem, yet it muſt be owned, that Des Cartes, by introducing geometry into phyſics, and accounting for the natural phænomena by the laws of mechanics, did infinite ſervice to philoſophy, in purging it from that venerable ruſt, which, in a long ſucceſſion of ages, it had contracted.

CARTHAGENA, a large city, with one of the beſt harbours in Spain, ſituated in the province of Murcia, about twenty miles ſouth of that city: weſt longitude 1° 5′, and north latitude 37° 40′.

It is a biſhop's ſee.

New CARTHAGENA, the capital of a province of the ſame name, in South America, ſituated on a kind of peninſula: weſt long. 77°, and north lat. 11°.

It is one of the largeſt and beſt fortified towns in South America.

CARTHAMUS, BASTARD-SAFFRON, in botany, a genus of plants belonging to the ſyngeneſia-polygamia-æqualis claſs; the compound flower is uniform and tubulous; the proper one monopetalous, of a funnel-form, with a limb divided into five erect, and almoſt equal parts. There is no pericarpium, but a connivent cup contains ſolitary ſeeds. See plate XXXVII. fig. 4.

The ſeeds of this plant are ſaid to purge watery and viſcid humours, and deterge the mucus, which frequently adheres to the inner coats of the ſtomach; but they are very little uſed in compoſition, and hardly ever occaſionally preſcribed.

CARTHUSIANS, a religious order, founded in the year 1080, by one Bruno. Their rules are very ſevere. They are not to go out of their cells, except to church, without leave of their ſuperior; nor ſpeak to any perſon without leave. They muſt not keep any portion of their meat or drink till next day: their beds are of ſtraw, covered with a felt; their cloathing two hair cloths, two cowls, two pair of hoſe, and a cloak, all coarſe. In the refectory, they are to keep their eyes on the diſh, their hands on the table, their attention on the reader, and their hearts fixed on God. Women are not allowed to come into their churches.

CARTHUSIAN-POWDER, the ſame with kermes mineral. See the article KERMES.

CARTILAGE, in anatomy, a body approaching much to the nature of bones; but lubricous, flexible, and elaſtic. It contains either none at all, or, at the utmoſt, but very little of the medullary matter, and ſerves for various uſes; as to prevent the bones from being damaged by a continual friction; to join them together by a ſychondroſis; and to contribute, in a great meaſure, to the formation of ſeveral parts; for inſtance, the larynx, the noſe, the ears, &c. See the articles LARYNX, NOSE, &c.

Cartilages are of various figures, obtaining various names from the things they reſemble. There is a thyroide or ſcutiform cartilage, a cricoide or annular one, two arytænoide cartilages, a xiphoide or enſiform one, and ſo of the reſt. See the articles THYROIDE CARTILAGE, CRICOIDES, &c.

Of the cartilages that unite the bones together, ſome join them ſo firmly, as to allow no ſenſible motion, as in the ſymphyſis of the oſſa pubis; and others, in ſuch a manner, as to allow of different motions, as in thoſe by which the bodies of the vertebræ are connected. The firſt grow eaſily hard, the other appear, in ſome meaſure, viſcid, and retain their flexibility.

CARTILAGINOUS, ſomething belonging to, or partaking of the nature of a cartilage.

CARTILAGINOUS FISHES, or thoſe with cartilaginous fins, conſtitute a claſs or order of fiſhes, otherwiſe called chondropterygious. See CHONDROPTERYGII.

CARTILAGINOUS LEAF, that ſurrounded with a margin, thicker indeed than the reſt, but of the ſame ſubſtance.

CARTMEL, a market-town of Lancaſhire, about ten miles north-weſt of Lancaſter: weſt longitude 2° 40′, and north latitude 54° 15′.

CARTON, or CARTOON, in painting, a deſign drawn on ſtrong paper to be afterwards calked through, and transferred on the freſh plaſter of a wall to be painted in freſco.

Carton is alſo uſed for a deſign coloured, for working in moſaic, tapeſtry, &c. The cartons at Hampton-court are deſigns of Raphael Urbin, intended for tapeſtry.

CARTOUCHE, in architecture and ſculpture, an ornament repreſenting a ſcroll of paper. It is uſually a flat member, with wavings, to repreſent ſome inſcription, device, cypher, or ornament of armoury. They are, in architecture, much the ſame as modillions; only theſe are ſet under the cornice in wainſcotting, and thoſe under the cornice at the eaves of a houſe.

CARTOUCHE, in the military art, a case of wood, about three inches thick at the bottom, girt with marlin, holding about four hundred musket balls, besides six or eight balls of iron, of a pound weight, to be fired out of a hobit, for the defence of a pass, *&c.*

A cartouche is sometimes made of a globular form, and filled with a ball of a pound weight; and sometimes it is made for the guns, being of ball of half or quarter pound weight, according to the nature of the gun, tied in form of a bunch of grapes, on a tompion of wood, and coated over. These were made in the room of partridge-shot.

CARTOUCHE is also used to denote the same as a cartridge. See CARTRIDGE.

CARTRIDGE, in the military art, a case of pasteboard or parchment, holding the exact charge of a fire-arm. Those for musquets, carabines, and pistols hold both the powder and ball for the charge; and those of cannon and mortars are usually in cases of pasteboard or tin, sometimes of wood, half a foot long, adapted to the caliber of the piece.

CARTRIDGE, in architecture, the same as cartouche. See CARTOUCHE.

CARTRIDGE-BOX, a case of wood or turned iron, covered with leather, holding a dozen musquet cartridges. It is wore upon a belt, and hangs a little lower than the right pocket-hole.

CARVER, a cutter of figures or other devices in wood. See CARVING.

This is also the name of an officer of the table, whose business is to cut up the meat, and distribute it to the guests.

CARVING, that branch of sculpture which regards cutting in wood. See the articles CUTTING *in Wood* and SCULPTURE.

CARUM, CARAWAY, in botany, a genus of the pentandria-digynia class of plants; the universal flower of which is uniform; the single flower almost equal, consisting of five obtuse, cordated petals, with inflected tops. There is no pericarpium, but the fruit is ovato-oblong, striated, and separable into two parts, with two seeds, convex, ovato-oblong, and striated on one side, and plain on the other.

The seed of this plant is one of the greater hot seeds, stomachic, carminative, and good in the colic. The officinal preparations of it are the seeds candied with sugar, and an oil distilled from the seed.

CARUNCULA, in anatomy, a term denoting a little piece of flesh, and applied to several parts of the body, thus:

CARUNCULA LACRYMALIS, a little eminence, situated in the larger angle, or canthus of the eye, where there are also sometimes hairs and certain little glands. According to some anatomists they help to keep the two puncta open when the eyes are shut. See the article EYE.

CARUNCULÆ MYRTIFORMES, fleshy knobs, about the size of a myrtle-berry, in the parts of generation of women, which owe their origin to the breaking of the hymen; and therefore not to be found in subjects, in which that membrane exists intire. They are two, three, or four in number, and are placed where the hymen was. See the article HYMEN.

CARUNCULÆ PAPILLARES, or MAMILLARES, little protuberances on the inside of the pelvis of the kidneys. See the articles PELVIS and KIDNEYS.

CARUNCULÆ CUTICULARES ALÆ, the same with nymphæ. See NYMPHÆ.

CARUNCLES, in the urethra, proceeding from a gonorrhœa, or an ulceration of the urethra, may be removed by introducing the bougie or wax candle. See the article *Medicated* CANDLE.

CARUS, in medicine, a sudden deprivation of sense and motion, affecting the whole body.

Hippocrates says, that though a carus is a privation of sense and motion, yet the faculty of respiration is not at all injured; and that it is caused by an affection of the fore part of the brain only, the middle ventricle of the brain also suffering, by consent of parts, so as to disturb the actions of the rational faculty: but if this carus or sopor oppresses respiration, to so violent a degree, as the patient cannot breathe, without great efforts, as those who snore under a deep sleep, it is called apoplexy; the solution of which is generally succeeded by a paraphlegy: but a carus is generally followed by a good state of health. It is sometimes taken for a heavy and profound sleep; from which it is difficult to be raised. This carus differs little from a lethargy. See the article LETHARGY.

CARWAR, a town on the coast of Malabar, in the hither India, sixty miles south of Goa: east longitude 73°, and north latitude 15°.

Here our east-india company have a factory, from whence they import pepper.

CARYATIDES, or CARIATES, in architecture,

chitecture, a kind of order of columns or pillasters, under the figure of women, dressed in long robes, after the manner of the carian people, and serving instead of columns, to support the entablement. The caryatides should always have their legs pretty close to each other, and even across, or one athwart the other; their arms laid flat to their bodies, or to the head; and as little spread as possible: when they are insulated, they should never have any great weight to support; and they ought always to appear in characters proper to the place they are used in.

CARYOCOSTINUM, in pharmacy, an electuary, chiefly prepared of cloves, white costus, ginger, cummin-seeds, &c. much recommended for purging choler, and breaking away obstructions of cachectic constitutions; also an excellent purge for strong people.

CARYOPHYLLEOUS, an appellation given to such flowers as resemble the pink. According to Tournefort, the plants with caryophylleous flowers, constitute a particular class by themselves. See the article BOTANY.

CARYOPHYLLUS, the CLOVE-TREE, in botany, a genus of the polyandria monogynia class; the flower of which consists of four roundish, crenated petals, less than the cup: the fruit is oval, containing one cell, and umbilicated; the seed is single, oval, and large. See plate XXXVII. fig. 5.

This fruit is not so much used in medicine, *per se*, as in seasoning of food: their essential oil, of which they yield great plenty, is used in many things, particularly cathartic compositions. It is much used for the tooth-ach, dropped on a little cotton or lint, and stuffed into the hollow of the tooth, or held as near as can be to the part affected. The clove gilly-flowers are aromatic, and very grateful to the smell and taste.

CARYOPHYLLUS, the PINK, in botany, the same with the dianthus of Linnæus. See the article DIANTHUS.

CARYOTA, in botany, a genus of plants, the class of which is not yet perfectly ascertained; the male and female flowers are produced in separate parts of the same spadix: the corolla is divided into three hollow, lanceolated segments; the stamina are numerous filaments, longer than the corolla; the antheræ are linear; the corolla in the female flower is divided into two very small accuminated segments; the fruit is a round berry, containing a single cell: the seeds are two, large, oblong, rounded on one side, and flatted on the other.

CASAL, the capital of the dutchy of Montferrat, in Italy, situated on the river Po, forty-five miles east of Turin; east longitude 8° 35', and north latitude 45°.

CASAL MAJOR, a town of the Milanese, situated on the north side of the river Po, about twenty miles east of Cremona; east longitude 11°, and north latitude 45° 5'.

CASAN, or KASAN, a province of Russia, lying between the province of Moscow on the west, and Siberia on the east.

CASBIN, or CASWIN, a city of Persia, in the province of Eyrac-Agem, about one hundred and eighty miles north of Ispahan: east long. 48°, and north lat. 46°.

CASCABEL, the knob or button at the end of the breech of a cannon. See CANNON.

CASCADE, a steep fall of water from a higher into a lower place.

They are either natural, as that at Tivoli, &c. or artificial, as those of Versailles, &c. and either falling with gentle descent, as those of Sceaux; or in form of a buffet, as at Trianon; or down steps, in form of a perron, as at St. Clou; or from bason to bason, &c.

CASCAIS, a town of Estremadura, in Portugal, situated at the mouth of the river Tagus, seventeen miles east of Lisbon: west longitude 10° 15', and north latitude 38° 40'.

CASCANS, in fortification, holes in form of wells, serving as entries to galleries to give vent to the enemies mines.

CASCHAW, or CASSOVIA, a city of upper Hungary, situated on the river Horat, seventy-eight miles north east of Buda: east longitude 20° 35', and north latitude 40°.

CASE, *casus*, among grammarians, implies the different inflections or terminations of nouns, serving to express the different relations they bear to each other, and to the things they represent.

There is great diversity among grammarians, with regard to the nature and number of cases: they generally find six, even in most of the modern languages, which they call the nominative, genitive, dative, accusative, vocative, and ablative; but this seems in compliance with their own ideas of the greek and latin, which they transfer to their own languages. The termination is not the sole criterion of a case, for though some authors reckon five cases of nouns in the greek, and six in the latin; yet several

of

of these cases are frequently alike: as the genitive and dative singular of the first and fifth declensions of the latin; the dative and ablative plural of all the declensions, &c. the genitive and dative dual of the greek, &c.

The english and many other modern languages express the various relations not by changes in the terminations, as the antients, but by the apposition of articles: it is certainly wrong to say, that *of a father* is the genitive case of *father*, and *to a father* the dative; for *of* and *to* are no part of the word *father*, they are only articles or modifications, which shew the different relation of the word father.

CASE, among printers, denotes a sloping frame, divided into several compartments, containing a number of types or letters of the same kind.

From these compartments the compositor takes out each letter as he wants it, to compose a page or form. Thus they say a case of pica, of greek, &c.

CASE *of crown-glass* contains usually twenty-four tables, each table being nearly circular, and about three feet six inches diameter.

Case of Newcastle glass contains thirty-five tables; of Normandy glass twenty-five.

CASE HARDENING, a method of preparing iron, so as to render its outer surface hard, and capable of resisting any edged tool. This is a lesser degree of steel-making, and is practised by baking, calcination, or cæmentation in an oven or other close vessel, stratified with charcoal, and powdered hoofs and horns of animals, so as to exclude the air. See STEEL.

CASE-SHOT, in the military art, musket-ball, stones, old iron, &c. put into cases, and shot out of great guns.

CASEMENT, or CASEMATE, in architecture, a hollow moulding, which some architects make one sixth of a circle, and others one fourth.

CASEMATE, or CAZEMATE, in fortification. See the article CAZEMATE.

CASERNS, in fortification, lodgings built in garrison towns, generally near the rampart, or in the waste places of the town, for lodging the soldiers of the garrison.

There are usually two beds in each casern for six soldiers to lie, who mount the guard alternately; the third part being always on duty.

CASERTA, a city of the province of Lavoro, in the kingdom of Naples, about sixteen miles north of the city of Naples: east longitude 15° 5′, and north latitude 41° 10′. It is a bishop's see.

CASES RESERVED, in the polity of the roman church, atrocious crimes, the absolution of which is reserved by the superiors to themselves or their vicars. There are cases reserved by the pope, who formerly gave the absolution in person, but now delegates that power to certain bishops and priests: cases reserved by the bishops in convents, some by the chapters; but at the point of death, all reserved cases are absolvable by the ordinary.

The cases reserved by the pope, according to the ritual of Paris, are, 1. The wilful burning of churches, and also of other places, if the incendiary is publicly proclaimed. 2. Actual simony. 3. The murder or mutilation of a person in holy orders. 4. The striking a bishop or other prelate. 5. Furnishing arms to the infidels. 6. Falsifying the bulls or letters of the pope. 7. Invading or pillaging the lands of the church. 8. Violating an interdiction of the pope.

CASH, in the commercial stile, signifies the stock of money, which a merchant, trader, or banker has at his disposal in order to trade. Thus we say, the cash of such a banker amounts to ten, twenty, or thirty thousand pounds.

CASH-BOOK. See the article BOOK.

CASHAN, or KASHAN, a city of the province of Eyrac-Agem, in Persia, about one hundred miles north of Ispahan: east long. 50°, and north lat. 34°.

CASHELL, or CASHILL, a city of the county of Tipperary, in Ireland, about eighty miles south-west of Dublin: west long. 7° 40′, and north lat. 52° 16′. It is a bishop's see.

CASHEW-NUT, the fruit of the acajou-tree, reckoned by Linnæus a species of anacardium. See the articles ACAJOU and ANACARDIUM.

CASHIER, a person who is entrusted with the cash of some public company. See the articles CASH and COMPANY.

CASI, in the persian policy, one of the two judges under the nadab, who decide all religious matters, grant all divorces, and are present at all public acts, having deputies in all the cities of the kingdom. See the article NADAB.

CASING *of timber work*, among builders, is the plastering a house all over on the outside with mortar, and then striking it while wet by a ruler with the corner of a trowel, to make it resemble the joints of

of free-ftone. Some direct it to be done upon heart laths, becaufe the mortar would, in a little time, decay the fap laths; and to lay on the mortar in two thickneffes, *viz.* a fecond before the firft is dry.

CASK, a veffel of capacity, for preferving liquors of divers kinds; and alfo fometimes dry goods, as fugar, almonds, *&c.*

A cafk of fugar is a barrel of that commodity, containing from eight to eleven hundred weight. A cafk of almonds is about three hundred weight.

A cafk mounted is that which is ready bound with all its hoops, its bottom, and bars.

A cafk in ftaves, that of which all the ftaves are ready prepared, and want only to be joined and hooped. They are often fhipped thus on board the veffels defigned for the american iflands, becaufe they take lefs room, and can be eafily made up there.

CASK, in heraldry, the fame with helmet.

CASKETS, on board a fhip, fmall ropes made of finnet, and faftened to gromets or little rings upon the yards. Their ufe is, to make faft the fail to the yard, when it is to be furled.

Breaft CASKETS are the longeft or biggeft of thefe cafkets, or thofe in the midft of the yard betwixt the ties.

CASPIAN-SEA, a large fea, or lake of Afia, bounded by the province of Aftracan on the north, and by part of Perfia on the eaft, fouth, and weft. It is upwards of four hundred miles long from fouth to north, and three hundred miles broad from eaft to weft.

CASSANO, a fortrefs, in the Milanefe, in Italy, fituated on the river Adda, about twelve miles north-eaft of Milan: eaft long. 10°, and north latitude 45° 20′.

CASSATION, among civilians, the act of annulling any act or procedure. The reafons of caffation are, 1. When a decree is directly contrary to another decree, and both againft the fame party. 2. When the decrees are contrary to the exprefs decifion of ftatutes and cuftoms. 3. When the formalities, prefcribed by the laws, have not been obferved.

Caffation is properly a term in the courts of France, the laws of which country require the party, that fues for a caffation, to depofite four hundred and fifty livres, which fum is forfeited if he fails in his fuit.

CASSAVI, or CASSADA, the fame with the jatropha of Linnæus. See JATROPHA.

Of the root of this plant, which is oblong and thick, the Americans make a kind of bread, faid to be a wholefome and nourifhing food.

CASSEL, the capital of the landgravate of Heffe-Caffel, in the circle of the upper Rhine, in Germany, fituated on the river Fulde: eaft longitude 9° 20′, and north latitude 51° 20′.

CASSEL is alfo the name of a town in french Flanders, about fifteen miles fouth of Dunkirk: eaft longitude 2° 30′, and north latitude 50° 5′.

CASSIA, in botany, a genus of the decandria-monogynia clafs of plants; the flower of which confifts of five hollow, roundifh petals, the lower ones larger and more diftant than the others; the fruit is an oblong pod, divided by tranfverfe fepta: the feeds are numerous, roundifh, and affixed to the upper edges of the valves.

Caffia is divided into three fpecies; the caffia fiftula, the caffia lignea, and the caffia caryophyllata. The firft is the caffia of the fhops, the foft frefh pulp of which is an excellent mild cathartic: it is given, with fuccefs, in inflammatory fevers, and in diforders of the breaft, kidneys, and bladder. The caffia lignea, or caffia bark, much refembles the cinnamon: it is a ftomachic and cordial, but poffeffes thefe virtues in a lefs degree than cinnamon; it is alfo ufed in the venice-treacle, mithridate, *&c.* The third, being the caffia caryophyllata, or clove bark, is a ftomachic, carminative, and alexipharmic. See the articles CARYOPHYLLUS and CARMINATIVE.

CASSIDA, in zoology, a genus of infects, of the order of the coleoptera, with filiform or thread-like antennæ, thicked towards the extremities: add to this, that the thorax is plain and marginated. Of this genus there are a great many fpecies, fome green, fome grey, but moft black; all which have been confounded, by authors, with the beetles, and called in englifh tortoife-beetles.

CASSIMERE, the capital city of a province of the fame name in the hither India: eaft longitude 75°, and north latitude 35°. It was once the capital of a kingdom, and is ftill fometimes the refidence of the mogul.

CASSINE, the CASSIA-BERRY-TREE, in botany, a genus of the pentandria-digynia clafs of plants: the flower of which is patent, divided into five fuboval, obtufe fegments larger than the cup; the fruit

fruit is a roundiſh berry with three cells, containing ſolitary ſuboval ſeeds. This plant is uſed in ſouth America in the ſame manner as tea.

CASSIOPEIA, in aſtronomy, a conſtellation of the northern hemiſphere, ſituated oppoſite to the great bear, on the other ſide of the pole. The ſtars of this conſtellation, in Ptolemy's catalogue, are thirteen; in Tycho's, twenty-eight; and in Mr. Flamſtead's, fifty-ſix.

In the year 1572, a remarkable new ſtar appeared in this conſtellation, ſurpaſſing ſirius or lyra in brightneſs and magnitude. It appeared even bigger than jupiter, which, at that time, was near his perigee, and by ſome was thought equal to venus, when ſhe is in her greateſt luſtre; but, in a month, it began to diminiſh in luſtre, and, in about eighteen months, entirely diſappeared.

CASSIS, the HELMET-SHELL, in natural hiſtory, a ſpecies of murex. See the article MUREX.

CASSITERIA, in the hiſtory of foſſils, a genus of cryſtals, the figures of which are influenced by an admixture of ſome particles of tin.

The caſſiteria are of two kinds: the whitiſh pellucid caſſiterion, and the brown caſſiterion; the firſt is a tolerably bright and pellucid cryſtal, and ſeldom ſubject to the common blemiſhes of cryſtal: it is of a perfect and regular form, in the figure of a quadrilateral pyramid, and is found in Devonſhire and Cornwall principally. The brown caſſiterion is like the former in figure: it is of a very ſmooth and gloſſy ſurface, and is alſo found in great plenty, in Devonſhire and Cornwall.

CASSOCK, or CASSULA, a kind of robe or gown, wore over the reſt of the habit, particularly by the clergy.

The word caſſock comes from the french *caſaque*, an horſeman's coat; ſome derive that again from the garment of the Coſſaques.

CASSOWARY, in ornithology, makes a diſtinct genus of birds, of the order of the gallinæ; the characters of which are theſe: its feet have each three toes, all placed foreward; and its head is ornamented with a kind of bony comb and naked wattles.

There is only one ſpecies of this genus, which is a robuſt, large, and thick bird, meaſuring four feet and an half when it ſtretches out its neck. See plate XXXVII. fig. 6.

CASSUMBAZAR, a town of India, in Aſia, ſituated on the river Ganges, in the province of Bengal: eaſt longitude 37°, and north latitude 24°.

CASSUMUNAR, in the materia medica, a root approaching to that of zedoary. It is cardiac and ſudorific, and famous in nervous caſes: it is alſo an ingredient in many compoſitions, and is preſcribed in powders, boluſſes, and infuſions. Its doſe is from five to fifteen grains.

CASSYTA, in botany, a genus of the triandria-monogynia claſs of plants; the calyx of which is a ſmall permanent perianthium, divided into three indentures: the corolla conſiſts of a ſingle petal, divided into three ſegments; the fruit is an oval berry, conſiſting of one cell, in which is a ſingle ſeed.

CASTANEA, the CHESNUT, in botany, is comprehended by Linnæus under fagus. See the article FAGUS.

CASTANET, a muſical inſtrument of the pulſative kind, wherewith the Moors, Spaniards, and Bohemians accompany their dances, ſarabands, and guittars, ſerving only to direct the time.

It conſiſts of two little round pieces of wood, dried and hollowed, in the manner of a ſpoon; the concavities whereof are placed on one another, faſtened to the thumb, and beat, from time to time, with the middle finger, to direct their motions and cadences: they may beat eight or nine times in the ſpace of a meaſure or ſecond of a minute.

CASTANOVITZ, a town of Croatia, ſituated on the river Unna, which divides Chriſtendom from Turky: eaſt longitude 17° 20′, and north latitude 45° 40′. It is ſubject to the houſe of Auſtria.

CASTEL-ARAGONESE, a fortreſs of Sardinia, ſituated on the north-weſt coaſt of that iſland: eaſt longitude 8° 45′, and north latitude 41°.

CASTEL-BAR, a town of Ireland, in the county of Mayo, and province of Connaught, about thirty eight miles north of Gallway: weſt long. 9° 24′, north lat. 53° 25′.

CASTEL BRANCO, a city of the province of Beira, in Portugal, about ninety-five miles north-eaſt of Liſbon: weſt long. 8°, north latitude 39° 35′.

CASTEL DE VIDE, a town of Alentejo, in Portugal, about twelve miles eaſt of Portalegre, and thirty-five weſt of Alcantara: weſt longitude 7° 40′, north latitude 39°.

CASTEL-RODRIGO, a town of Portugal, in

in the province of Tralofmontes, fituated thirty miles north weft of the city Rodrigo: weft long. 7°, north lat. 41°.

CASTELLA, a town of the Mantuan, in Italy, about five miles north-eaft of the city of Mantua: eaft longitude 11° 15′, north latitude 45° 30′.

CASTELLAN, the name of a dignity or charge in Poland: the caftellans are fenators of the kingdom, but fenators only of the lower clafs, who, in diets, fit on low feats, behind the palatines, or great fenators. They are a kind of lieutenants of provinces, and command a part of the palatinate under the palatine.

CASTELLANY, the territory belonging to any city or town, chiefly ufed in France and Flanders: thus we fay, the caftellany of Lifle, Ypres, *&c.*

CASTIGLIONE, a fortified town in the dutchy of Mantua, about twenty miles north-weft of the city of Mantua: eaft longitude 11°, north latitude 45° 15′.

CASTILE, the name of two inland provinces of Spain, fituated almoft in the middle of that kingdom: the moft foutherly one is called New Caftile, and the other, towards the north, Old Caftile; Madrid being the capital of the former, and Burges of the latter.

CASTILE DE ORO, a name given by the Spaniards to a province of Terra Firma, on their firft planting it.

CASTILLAN, or CASTILLANE, a gold-coin, current in Spain, and worth fourteen rials and fixteen deniers.

CASTILLAN is alfo a weight ufed in Spain for weighing gold. It is the hundredth part of a pound fpanifh weight.

What they commonly call a weight of gold in Spain, is always underftood of the caftillan.

CASTILLARA, a town of the Mantuan, in Italy, fituated fix miles north-eaft of the city of Mantua: eaft long. 11° 25′, north lat. 45° 20′.

CASTILLON, a town of Perigort, in the province of Guienne, in France, fituated on the river Dordonne, fixteen miles eaft of Bourdeaux: weft long. 2° 40′, north latitude 44° 50′.

CASTING, in foundery, the running of a metal into a mould, prepared for that purpofe.

CASTING *of candles*, is the filling the mould with tallow.

CASTING *of lead on cloth*, is the ufing a frame, or mould, covered with woolen cloth, and linen over it, to caft the lead into fine fheets.

CASTING *of metals, of letters, bells, figures*, &c. See the article FOUNDERY.

CASTING *in fand or earth*, is the running of metals between two frames, or moulds, filled with fand or earth, wherein the figure that the metal is to take, has been impreffed *in creux*, by means of the pattern.

CASTING *in ftone or plafter*, is the filling with fine liquid plafter a mould that has been taken in pieces off a ftatue, or other piece of fculpture, and run together again.

CASTING, in falconry, any thing that is given a hawk to cleanfe and purge his gorge: of thefe there are two forts, feathers and cotton; the latter whereof is given in pellets, about the bignefs of a hazel-nut, conveyed into his gorge after he hath fupped. If, in the morning, he has caft them out round, while not ftinking, nor very waterifh, he may be concluded to be found; if otherwife, he is unfound. The cafting of plumage is obferved after the fame way as that of cotton.

CASTING, in joining, *&c.* Wood is faid to be caft or warped, when either by its own drought, or moifture of the air, or other accidents, it fhoots or fhrinks, altering its flatnefs or ftraightnefs, and becoming crooked.

CASTLE, a fortrefs or place rendered defenceable, either by nature or art.

A caftle is a fort, or little citadel. See the article CITADEL.

It frequently fignifies with us the principal manfion of noblemen.

In the time of Henry II. there were no lefs than 1115 caftles in England, each of which contained a manor.

CASTLE, in the fea-language, is a part of the fhip, of which there are two, the fore-caftle, being the elevation at the prow, or the uppermoft deck, towards the mizen, the place where the kitchens are. Hind-caftle is the elevation which reigns on the ftern, over the laft deck, where the officers cabbins and places of affembly are.

CASTLE-CAREY, a market-town of Somerfetfhire, fituated ten miles fouth eaft of Wells: weft longitude 2° 40′, north latitude 51° 15′.

CASTLE-RISING, a borough-town of Norfolk, fituated near the fea coaft, about thirty miles weft of Norwich, and feven north of Lynn: eaft longitude 40°, north latitude 52° 46′.

It fends two members to parliament.

CASTLE-WARD, or CASTLE-GUARD, a tax

tax laid on ſuch as dwell within a certain diſtance of a caſtle, towards the maintenance of thoſe that watch and ward the caſtle: the word is ſometimes uſed for the circuit itſelf, inhabited by ſuch as are ſubject to this ſervice.

CASTLE-WORK, ſervice or labour done by inferior tenants, for the building and upholding of caſtles of defence, towards which ſome gave their perſonal aſſiſtance, and others paid their contributions. This was one of the three neceſſary charges to which all lands, among our ſaxon anceſtors, were expreſly ſubject.

CASTON, a market-town of Norfolk, about eight miles north-weſt of Norwich: eaſt long. 1° 20′, north lat. 52° 45′.

CASTOR, the BEAVER, in zoology, a genus of quadrupeds, of the order of the glires, the feet of which have each five toes, and the hinder ones are formed for ſwimming.

Under this genus are comprehended, 1. The beaver, properly ſo called, with a black, flat, and oval tail: this ſpecies produces this caſtoreum. 2. The caſtor, with a flat, lanceolated, or oblong tail, called by Cluſius the exotic water-rat. 3. The round-tailed great water-rat. See plate XXXVII. fig. 7. which repreſents the common beaver.

CASTOR, in aſtronomy, a moiety of the conſtellation of gemini, called alſo Apollo. See the article GEMINI.

CASTOR and POLLUX, two meteors which ſometimes, in a ſtorm at ſea, appear ſticking to ſome part of the ſhip, in the ſhape of two fire-balls: when only one is ſeen, it is more properly called Helena. The two together are adjudged to portend a ceſſation of the ſtorm: but one alone portends ill, and that the ſevereſt part of the tempeſt is yet to come: both theſe balls are by ſome called Tyndarides.

CASTOR is alſo the name of a market-town of Lincolnſhire, twenty miles north-eaſt of Lincoln: weſt longitude 12′, and north latitude 53° 30′.

CASTOREUM, CASTOR, in the materia medica, is by many miſtaken for the teſticles of the caſtor or beaver, though in fact, a peculiar ſecreted matter, contained in bags deſtined to receive it, in the manner of the muſk and civet: yet ſituated differently in the animal. See the article CASTOR.

Caſtoreum is an indurated ſubſtance, formed of a matter once fluid, the thinner part of which has been evaporated in drying. It is a light and friable matter, of a moderately lax texture, and of a deep duſky brown colour. It is of a ſomewhat acrid and bitteriſh taſte, and of a ſtrong, and, to many people, a very diſagreeable ſmell. It is brought to us in the bags which naturally contain it while in the animal: and theſe ſo much reſemble the teſticles of an animal both in their dry ſtate, and when on the body of the creatures, that we are not to wonder people who had not examined their ſituation on the animal really took them for ſuch. Theſe bags are always joined two together; they are equal in ſize and of an oblong form; they are placed ſide by ſide in their natural ſituation in one bag, which contains them both. This bag is ſometimes ſent over to us with them, but much oftener they are ſent without it, the cuſtom of the people, who ſell it to the merchants, being to take out the two bags from the common membrane, and hang them up in a chimney to dry. In which operation they acquire the brown colour we ſee them of, their original one being a pale fleſh colour.

It is a very valuable medicine, of great uſe in hyſteric caſes, and in all diſorders of the nerves. It attenuates viſcuous humours, promotes the menſes, and reſiſts putrefaction. It is good alſo in epilepſies, palſies, and all complaints of that kind. See the article CASTOR.

CASTRATION, in ſurgery, the operation of gelding.

It was prohibited by a decree of the ſenate of Rome under Hadrian; and the cornelian law ſubjected the perſon who performed the operation, to the ſame penalties as the perſon on whom it was performed, although it was done with his conſent.

Caſtration is much in uſe in Aſia and Turkey, where it is practiſed upon the ſlaves, to prevent any commerce with their women. In Italy, caſtration is frequent from another motive, namely, to preſerve the voice for ſinging. It is ſometimes found neceſſary in chirurgical caſes, as in a ſarcocele and cancer of the teſticles. For the method, therefore, of performing this operation, ſee the article SARCOCELE.

CASTREL, or KESTREL, a ſort of hawk which in ſhape reſembles the lanner, but in ſize the hobby. Her game is the growſe; but as ſhe is a ſlow cowardly bird, ſhe is not much uſed.

CASTRES, a city of Languedoc, in France, about thirty-five miles eaſt of Tholouſe : eaſt longitude 2°, and north latitude 43° 40′.

It is a biſhop's ſee.

CASTRO, the capital of the iſland of Chiloe, on the coaſt of Chili, in ſouth America : weſt long. 82°, ſouth latit. 43°.

CASTRO is alſo the capital of a dutchy of the ſame name in the pope's territories, in Italy, ſituated on the confines of Tuſcany : eaſt longitude 12° 35′, north latitude 42° 30′.

CASTRO is likewiſe a town in the territory of Otranto, in the kingdom of Naples, about ſeven miles ſouth of Otranto : eaſt longitude 19° 25′, north latitude 40° 8′.

CASTRO MARINO, a town in the province of Algarva, in Portugal, ſituated near the mouth of the river Guadiana, on the confines of Andaluſia, weſt long. 8° 15′, north latitude 37°.

CASU CONSIMILI, in law, a writ of entry granted where a tenant, by courteſy or for life, aliens either in fee, in tail, or for the term of another's life. It is brought by him in reverſion againſt the perſon, to whom ſuch tenant does ſo alien to the prejudice of the reverſioner, in the tenant's life time.

CASU PROVISO, in law, a writ of entry founded on the ſtatute of Glouceſter, where a tenant in dower aliens the lands ſhe ſo holds in fee, or for life; and lies for the party in reverſion againſt the alienee.

CAT, *felis*, a well-known quadruped, of the order of the feræ, or beaſts of prey. See the article FELIS.

The domeſtic cat is diverſified with an almoſt infinite variety of colours and ſtreaks ; but the natural colour, in a wild ſtate, is a brown tawney, variegated with ſtreaks of a pale whitiſh colour. In France, the cats are all of a bluiſh lead-colour ; and, in the north of Europe, they are all over white. See plate XXXVIII. fig. 1. which repreſents the common cat.

CAT-MINT, in botany, the engliſh name of the nepeta of botaniſts. See NEPETA.

CAT-HARPINGS, in a ſhip, ſmall ropes running in little blocks from one ſide of the ſhrowds to the other, near the deck. Their uſe is to force the ſhrowds, and make them taught, for the more ſecurity and ſafety of the maſts.

CAT, or CAT-HEAD, on ſhipboard, a ſhort piece of timber in a ſhip, lying aloft right over the hawſe, having at one end two ſhivers, wherein is reeved a rope, with a great iron hook faſtened to it, called

CAT-HOOK. Its uſe is to trice up the anchor, from the hawſe to the top of the fore-caſtle.

CAT-ROPE. See the article ROPE.

CAT-HOLES, in a ſhip, are over the parts as right with the capſtan as they can be : their uſe is to heave the ſhip aſtern, upon occaſion, by a cable, or a hawſe, called ſtern-faſt. See the article STERN-FAST.

CAT *of the mountain*, *catus pardus*, an animal of the cat-kind, about the ſize of a maſtiff, variegated with longitudinal black ſtreaks on the upper part of the body, and black ſpots on the under part. See plate XXXVIII. fig. 2.

CATABIBAZON, in aſtronomy, the moon's deſcending node, called alſo dragon's tail. See the article NODE.

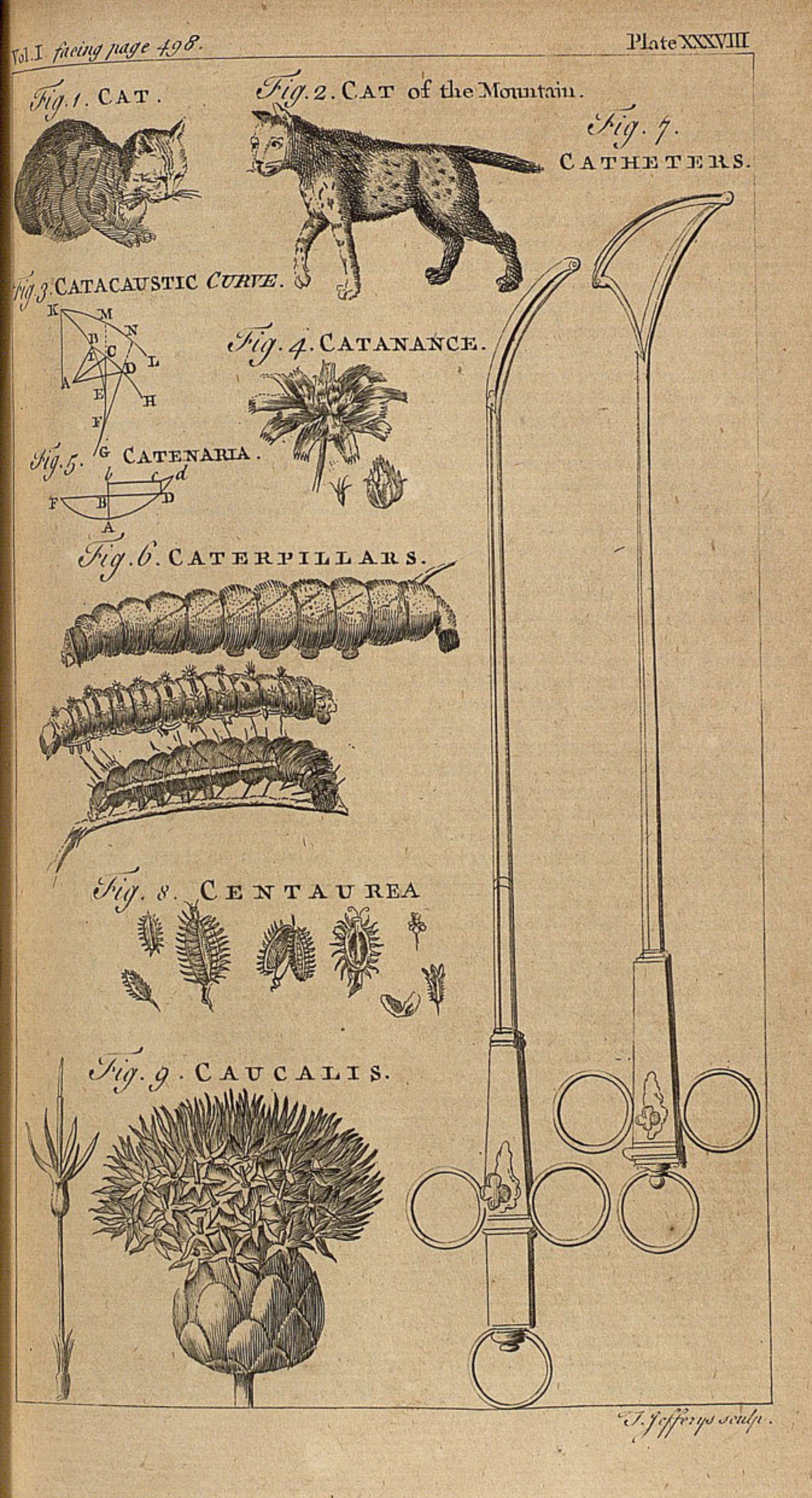
CATACAUSTIC CURVES, in the higher geometry, that ſpecies of cauſtic curves which are formed by reflection. See the article CAUSTIC CURVE.

Theſe curves are generated after the following manner. If there be an infinite number of rays as A B, A C, A D, &c. (plate XXXVIII. fig. 3.) proceeding from the radiating point A, and reflected at any given curve B D H, ſo that the angles of incidence be ſtill equal to thoſe of reflection ; then the curve B E G, to which the reflected rays B I, C E, D F, &c. are tangents continually, as in the points I, E, F, is called the catacauſtic curve.

If the reflected I B be produced to K, ſo that A B = B K, and the curve K L be the evolute of the catacauſtic B E G, beginning at the point K ; then the portion of the catacauſtic B E = A C − A B + C E − B I continually. Or if any two incident rays as A B, A C be taken, that portion of the cauſtic that is evolved while the ray A B approaches to a coincidence with A C, is equal to the difference of thoſe incident rays + the difference of the reflected rays. When the given curve is a geometrical one, the catacauſtic will be ſo too, and always rectifiable.

The catacauſtic of a circle is a cycloid, formed by the revolution of a circle along a circle. The cauſtic of the vulgar ſemicycloid, when the rays are parallel to the axis is alſo a vulgar cycloid, deſcribed by the revolution of a circle upon the ſame baſe. The cauſtic of the logarithmic ſpiral is the ſame curve, only ſet in a different poſition.

CATACHRESIS, in rhetoric, a trope which


Fig. 1. CAT.
Fig. 2. CAT of the Mountain.
Fig. 7. CATHETERS.
Fig. 3. CATACAUSTIC CURVE.
K
M
N
B
I
C
L
D
A
E
H
F
G
Fig. 4. CATANANCE.
Fig. 5. CATENARIA.
b
c
d
F
B
D
A
Fig. 6. CATERPILLARS.
Fig. 8. CENTAUREA
Fig. 9. CAUCALIS.
T. Jefferys sculp.

which borrows the name of one thing to expreſs another. Thus Milton deſcribing Raphael's deſcent from the empyreal heaven to paradiſe, ſays,

"Down thither prone in flight
"He ſpeeds, and thro' the vaſt ethereal
"ſky
"Sails between worlds and worlds.

CATACOMB, a grotto or ſubterraneous place for the burial of the dead.

The term is particularly uſed in Italy, for a vaſt aſſemblage of ſubterraneous ſepulchres, three leagues from Rome, in the *via appia*, ſuppoſed to be the ſepulchres of the antients. Others imagine theſe catacombs to be the cells wherein the primitive chriſtians hid themſelves. Each catacomb is three foot broad, and eight or ten high, running in form of an alley or gallery, and communicating with one another.

Some authors ſuppoſe them to have been the *puticuli* mentioned by Feſtus Pompeius, into which the Romans threw the bodies of their ſlaves, to whom they denied the honours of burying: and Mr. Monro, in the philoſophical tranſactions, gives it as his opinion, that the catacombs were the burial places of the firſt Romans, before the practice of burning the dead was introduced; and that they were dug in conſequence of theſe opinions, that ſhades hate the light, and love to hover about the place where their bodies were laid.

CATACOUSTICS, an appellation given to the doctrine of reflected ſounds, called alſo cataphonics.

CATADIOPTRICAL TELESCOPE, that otherwiſe called a reflecting one. See the article TELESCOPE.

CATADUPA, a water-fall, or cataract. See the article CATARACT.

Hence the inhabitants about the cataracts of the Nile, were called catadupi by the antients.

CATAFALCO, in architecture, a decoration of ſculpture, painting, *&c.* raiſed on a timber ſcaffold, to ſhew a coffin or tomb in a funeral ſolemnity.

CATALEPSY, *catalepſis*, in medicine, the ſame with catoche. See CATOCHE.

CATALLIS CAPTIS NOMINE DISTRICTIONIS, in law, a writ which lies where a houſe is within a borough, for rent iſſuing out of the ſame: and this writ warrants the taking of doors or windows by way of diſtreſs.

CATALLIS REDENDIS, a writ that lies where goods being delivered to perſons to keep until a certain day, are not on demand delivered on that day.

CATALOGUE, a liſt or enumeration of the names of ſeveral books, men, or other things, according to a certain order.

In compiling a catalogue of all the authors who have wrote on any particular branch of ſcience, Morhof gives it as his opinion, that it ſhould exhibit a ſynopſis of all the books in that ſcience, whether publiſhed or in manuſcript; that the names of the authors ſhould be ranged in the order of the years when their works were publiſhed; and, thirdly, that a catalogue ſhould be added of the works themſelves, in the order of time alſo; and that each of theſe ſhould comprehend a ſummary, not only of the chapters, but of the contents of theſe chapters. We have likewiſe, in the ſame author, an account of the moſt remarkable catalogues, and writers of catalogues, of different nations, to which we refer thoſe who deſire to be more fully informed in this ſubject.

CATALOGUE *of the ſtars*, is a liſt of the fixed ſtars diſpoſed in their ſeveral conſtellations, with the longitudes and latitudes of each.

The moſt renowned compoſers of theſe catalogues are, 1. Ptolemy, who added his own obſervations to thoſe of Hipparchus Rhodius, about the year of Chriſt 880. 2. Ulugh Beigh made a catalogue of the fixed ſtars in 1437. 3. Tycho Brahe determined the places of 777 ſtars for the year 1600. 4. William Landgrave of Heſſe, with his mathematicians, determined the places of 400 fixed ſtars. 5. In the year 1667, Dr. Halley, in the iſland of St. Helena, obſerved 350 not viſible in our horizon. And, 6. J. Hevelius, adding his own obſervations to thoſe of the antients, and of Dr. Halley, made a catalogue of 1888. But the laſt and greateſt is the britannic catalogue, a performance the moſt perfect of its kind, compiled from the obſervations of the accurate Mr. Flamſtead, who with all the talents and apparatus requiſite for ſuch an undertaking, devoted himſelf to that work for a long ſeries of years. It contains 2734 ſtars.

CATALONIA, a province of Spain, bounded by the Pyrenean mountains, which divide it from France, on the north; by the Mediterranean, on the eaſt and ſouth; and by the provinces of Aragon and Valencia, on the weſt.

CATAMENIA, in medicine, the ſame with the menſes. See Menses.

CATAMITE, a boy kept for ſodomitical practices. See the article Sodomy.

CATANANCE, or Catananche, in botany, a genus of plants belonging to the ſyngeneſia-polygamia claſs, the compound flower of which is often imbricated and uniform: the proper flower is monopetalous, ligulated, linear, longer than the cup, truncated and quinquedentated: there is no pericarpium. The ſeeds are ſolitary, compreſſed, and crowned with a little cup of four or five hairs. See plate XXXVIII. fig. 4.

CATANIA, a city and port-town of Sicily, about thirty-five miles north of Syracuſe, near the foot of mount Ætna: eaſt longitude 15°, north latitude 38°.

CATAPAN, a name given by the greek emperors to the governor of Puglia and Calabria in Italy. They ſucceeded the exarchs of Ravenna; and Du Cange is of opinion, a chronological table of theſe governors might be very ſerviceable for underſtanding the byzantine hiſtorians.

CATAPASM, among antient phyſicians, ſignifies any dry medicine reduced to powder, in order to be uſed by way of inſpiration in the whole body, or any part of it. Some catapaſms are appropriated to ulcers, ſome to the ſkin: the former cicatrize, the latter are deterſive. We learn from Pliny, that catapaſms of roſes were uſed to reſtrain ſweat, and to dry the body after bathing.

CATAPELTÆ, or Catapulta, in antiquity. See the article Catapulta.

CATAPHONICS, the ſcience which conſiders the properties of reflected ſounds. See the article Echo.

CATAPHORA, in medicine, the ſame as coma. See the article Coma.

CATAPHRACTA, in antiquity, a kind of coat of mail, which covered the ſoldier from head to foot.

Hence cataphracti were horſemen armed with the cataphracta, whoſe horſes, as Salluſt ſays, were covered with linen full of iron plates diſpoſed like feathers.

CATAPHRACTUS, or Pogge, in zoology, a fiſh of the cottus-kind, with an octagonal body, and a great many cirri, or beards. See the article Cottus.

CATAPHRYGIANS, antient heretics, who took their name from the country of Phrygia. They ſuppoſe the holy ſpirit had abandoned the church, and therefore that Montanus, as a prophet, and Priſcilla and Maximilla, as true propheteſſes, were to be conſulted in every thing relating to religion.

CATAPLASM, an external topical medicine, of a ſoft conſiſtence, and prepared of ingredients of different virtues, according to the intention of the phyſician. Hence there are different ſorts of cataplaſms, with reſpect to the matter of which they conſiſt, as emollient, reſolvent, diſcutient, ſuppurative, corroborative, anodyne and antiſeptic cataplaſms. They are commonly applied hot, or lukewarm, rolled up in linen cloths, which by means of the oils which are added, preſerve heat for a conſiderable time; for which end alſo ſome, upon theſe, apply a ſwine or ox's bladder, and ſometimes on the top of all, apply an earthern tile. Some cataplaſms are prepared by boiling over a fire, others not; whence they are diſtinguiſhed into crude and boiled. Of the former, are green plants bruiſed and reduced to a pulp, or dried and reduced to a powder, which is mixed with a convenient quantity of oil or other proper liquor. Thoſe prepared by fire, are bruiſed or pounded plants boiled to a ſoftneſs, and then boiled over again to the thickneſs of pap, with a ſufficient quantity of mucilage, meal and fat, oil, butter, ointment, leaven, bread, honey, &c. In preparing cataplaſms of milk, with an intention of mollifying, it is neceſſary not to boil them too much, becauſe milk is inſpiſſated by decoction, and the thin parts of it are diſſipated. Obſerve alſo to chooſe the neweſt and richeſt milk that can be got.

CATAPULTA, in antiquity, a military engine contrived for the throwing of arrows, darts, and ſometimes ſtones upon the enemy.

Some of theſe engines were of ſuch force, that they would throw ſtones of an hundred weight. Joſephus takes notice of the ſurpriſing effects of theſe engines, and ſays, that the ſtones thrown out of them beat down the battlements, knocked off the angles of the towers, and would level a whole file of men, from one end to the other, were the phalanx never ſo deep.

The catapulta differed from the balliſta, in that the latter threw ſtones only, whereas the former threw chiefly darts and javelins. See the article Ballista.

CATARACT, in hydrography, a precipice in the channel of a river, cauſed by rocks,

rocks, or other obſtacles, ſtopping the courſe of the ſtream, from whence the water falls with a greater noiſe and impetuoſity: ſuch are the cataracts of the Nile, the Danube, Rhine, and the famous one of Niagara in America.

CATARACT, in medicine and ſurgery, a diſorder of the humours in the eye, by which the pupilla, that ought to appear tranſparent and black, looks opake, grey, blue, brown, &c. by which viſion is variouſly impeded, or totally deſtroyed.

The ordinary and moſt common cauſe of cataracts, is from an opacity in the cryſtalline lens: it appears that it may ſometimes be cauſed by a membrane in the aqueous humours, which cauſe was the only one aſcribed to cataracts, till the preſent century.

Cataracts have been diſtinguiſhed by ſurgeons and oculiſts into various ſpecies as into recent and inveterate, incipient and confirmed, mature and immature, ſimple and complicated, immoveable and ſhaking, milky and purulent, true and ſpurious, and into curable and incurable. There is ſcarce any diſorder, the event of which is more uncertain, than that of a cataract: medicines will generally have little or no effect, when the diſorder is confirmed, or inveterate, notwithſtanding what ſome may boaſt of their wonderful *arcana* for this purpoſe: almoſt the ſole relief is therefore had from the ſurgeon's hand and inſtruments. For the proceſs of this operation, ſee the article COUCHING *of a cataract*.

Tho' moſt people reject all methods of treating cataracts by medicines, as uſeleſs and trifling, yet there are ſome caſes in this diſorder, which ought to be recommended to the care of the phyſicians, who, by directing a proper regimen and courſe of phyſic, adapted to the patient's habit, age, and other circumſtances, may, by the aſſiſtance of nature, remove cataracts beyond expectation.

CATARO, the capital of a territory of the ſame name, in the venetian Dalmatia, about twenty-five miles ſouth-eaſt of Raguſa: eaſt longitude 19° 20′, north latitude 42° 25′.

CATARRH, in medicine, a diſtillation or defluction from the head upon the mouth and aſpera arteria, and through them upon the lungs.

The cauſe of this diſorder proceeds from the lympha or maſs of blood, moſt frequently in the winter time, as it commonly ariſes from a cold. If it is attended with a fever, as it almoſt always is, in ſome degree, it is called a catarrhous fever. The catarrhus ſuffocativus, is a violent and ſuffocating cough, excited either by an exceſſive catarrh, or cold; by the rupture of a vomica in the lungs; by a polypus driven from the heart into the pulmonary artery; or, ſometimes, by a ſpaſmodic conſtitution of the nerves, as it happens in ſome hyſteric caſes.

Catarrhous diſorders, as well as all other feveriſh indiſpoſitions, are to be treated in a mild and gentle manner; and the patient is to be kept moderately warm, either in bed, or by means of a fire: he is to abſtain from medicines which are too hot, draſtic, and productive of commotions; as alſo from a hot regimen. The diet is to be ſpare, and the drink tepid and wholeſome: the moſt proper is excorticated barley, with ſhavings of hartſhorn, raiſins, and liquorice root.

When the efferveſcence is violent, a few grains of nitre may be advantageouſly mixed with the bezoardic powders; and emulſions muſt be plentifully drunk: when during this diſorder the fæces are indurated, and the patient coſtive, beſides water-gruel, decoctions of manna, &c. are to be drunk; and nothing is more proper than emollient clyſters.

Some diſtinguiſh catarrhs into three kinds, calling it branchus, when the humours of the head fall upon the jaws; coryza when they fall upon the noſtrils; and rheum, when they fall on the breaſt.

CATARRH *of the ſpinal marrow*, in medicine, a falling out of the marrow of the back-bone, which happens when certain lymphatic veſſels are broken.

CATARRHAL, ſomething belonging to a catarrh: thus we ſay, a catarrhal fever, a catarrhal flux, &c.

CATASTASIS, κατάστασις, in poetry, the third part of the antient drama, being that wherein the intrigue, or action, ſet forth in the epitaſis, is ſupported and carried on, and heightened, till it be ripe for the unravelling in the cataſtrophe. Scaliger defines it, the full growth of the fable, while things are at a ſtand in that confuſion to which the poet has brought them.

CATASTROPHE, in dramatic poetry, the fourth and laſt part in the antient drama, or that immediately ſucceeding the cataſtaſis: or, according to others, the third only; the whole drama being divided

divided into protaſis, epitaſis, and cataſtrophe; or in the terms of Ariſtotle, prologue, epilogue, and exode.

The cataſtrophe clears up every thing, and is nothing elſe but the diſcovery or winding up of the plot. It has its peculiar place, for it ought entirely to be contained, not only in the laſt act, but in the very concluſion of it; and when the plot is finiſhed, the play ſhould be ſo too. The cataſtrophe ought to turn upon a ſingle point, or ſtart up on a ſudden.

The great art in the cataſtrophe is, that the clearing up of all difficulties may appear wonderful, and yet eaſy, ſimple, and natural.

It is a very general, but very prepoſterous, artifice of ſome writers, to ſhew the cataſtrophe in the very title of the play. Mr. Dryden thinks that a cataſtrophe reſulting from a mere change in ſentiments and reſolutions of a perſon, without any other machinery, may be ſo managed, as to be exceeding beautiful. It is a diſpute among the critics, whether the cataſtrophe ſhould always fall out favourably on the ſide of virtue, or not. The reaſons on the negative ſide ſeem the ſtrongeſt: Ariſtotle prefers a ſhocking cataſtrophe to a happy one. The cataſtrophe is either ſimple or implex; the firſt is that in which there is no change in the ſtate of the principal perſons, nor any diſcovery or unravelling, the plot being only a mere paſſage out of agitation into quiet and repoſe. In the ſecond, the principal perſons undergo a change of fortune, in the manner already defined.

CATCH, or Catches, in a clock, thoſe parts which lay hold of others by hooking, or catching hold of them.

Catch-fly, in botany, a name given to the lychnis. See the article Lychnis.

Catch-land, ſuch land, particularly in Norfolk, which is not certainly known to what pariſh it belongs; ſo that the miniſter, who firſt ſeizes the tythes, does, by right of pre-occupation, enjoy them for that year.

Catch-pole, or Catch-polle, a term uſed, by way of reproach, for the bailiff's-follower, or aſſiſtant. See the article Bailiff.

Formerly it was a term of credit applied to thoſe now called ſerjeants of the mace, bailiffs, *&c.*

Catch-word, among printers, that placed at the bottom of each page; being always the firſt word of the following page.

CATECHISM is defined in the liturgy of the church of England, an inſtitution to be learned of every perſon, before he be brought to be confirmed by the biſhop. The catechiſms of the primitive church, uſually began with the doctrine of repentance and remiſſion of ſins, the neceſſity of good works, and the nature and uſe of baptiſm; then followed the explanation of the ſeveral articles of the creed, to which ſome added the doctrine of the immortality of the ſoul, and an account of the canonical books of ſcripture.

The catechiſm of the church of England, is drawn up after the primitive manner, by way of queſtion and anſwer: originally it conſiſted of no more than a repetition of the baptiſmal vow, the creed, and the Lord's prayer; but king James I. ordered the biſhops to add to it a ſhort and plain explication of the ſacraments. The time appointed for catechizing, are ſundays and holidays. Every parſon, vicar, or curate, are enjoined, upon every ſunday and holiday, to teach and inſtruct the youth, and ignorant perſons of his pariſh, in the catechiſm, ſet forth in the book of common-prayer; and that under the penalty of a ſharp reproof for the firſt omiſſion, ſuſpenſion for the ſecond, and excommunication for the third.

CATECHIST, an officer in the primitive chriſtian church, whoſe buſineſs it was to inſtruct the catechumens in the firſt principles of religion, and thereby prepare them for the reception of baptiſm.

This office might be performed by an eccleſiaſtic of any order, and it was ſometimes done by the biſhop himſelf.

CATECHU, in the materia medica, improperly called *terra japonica* in the ſhops, is a concreted vegetable juice, partly of the gumy, partly of the reſinous kind.

The common catechu of the ſhops, is brought to us in large, flat cakes, from Malabar, Surat, Pegu, and other parts in the Eaſt-Indies.

It is prepared from the parts of ſeveral different trees of the ſame aſtringent virtue, and is affirmed by ſome to be the lycium of the antients. The catechu is a very valuable aſtringent. It ſtrengthens the ſtomach, aſſiſts digeſtion, and ſtops fluxes, diarrhœas, and even dyſenteries; as alſo hæmorrhages of all kinds, and particularly profluvia of the menſes. Its doſe is from five or ſix grains to a ſcruple. It may be given in almoſt any form.

CATECHUMEN, a candidate for baptiſm,

tism, or one who prepares himself for the receiving thereof.

The catechumens, in church-history, were the lowest order of christians in the primitive church. They had some title to the common name of christian, being a degree above pagans and heretics, tho' not consummated by baptism. They were admitted to the state of catechumens, by the imposition of hands, and the sign of the cross. The children of believing parents were admitted catechumens, as soon as ever they were capable of instruction: but at what age those of heathen parents might be admitted, is not so clear. As to the time of their continuance in this state, there were no general rules fixed about it; but the practice varied according to the difference of times and places, and the readiness and proficiency of the catechumens themselves.

There were four orders or degrees of catechumens; the first were those instructed privately without the church, and kept at a distance, for some time, from the privilege of entering the church, to make them the more eager and desirous of it. The next degree were the *audientes*, so called from their being admitted to hear sermons and the scriptures read in the church, but were not allowed to partake of the prayers. The third sort of catechumens were the *genu flectentes*, so called because they receive imposition of hands kneeling. The fourth order was the *competentes & electi*, denoting the immediate candidates for baptism, or such as were appointed to be baptized the next approaching festival, before which strict examination was made into their proficiency under the several stages of catechetical exercises.

After examination, they were exercised for twenty days together, and were obliged to fasting and confession: some days before baptism they went veiled, and it was customary to touch their ears, saying *ephata*, i. e. be opened; as also, to anoint their eyes with clay; both ceremonies being in imitation of our Saviour's practice, and intended to shadow out to the catechumens their condition both before and after their admission into the christian church.

CATEGATE, SCAGERAC-SEA, the passage from the german ocean to the Sound, or the entrance into the Baltic sea, between Sweden and Denmark.

CATEGOREMA, among logicians, denotes much the same with predicament or category. See the article CATEGORY.

CATEGORICAL, whatever partakes of the nature of a category. Thus, a categorical order, requires the substance to go before the accident. And categorical answers are pertinent and precise replies to the facts or objections proposed. See the article CATEGORY.

CATEGORY, κατηγορία, in logic, a series or order of all the predicates or attributes contained under any genus.

The school philosophers distribute all the objects of our thoughts and ideas into certain *genera* or classes, not so much, say they, to learn what they do not know, as to communicate a distinct notion of what they do know; and these classes the Greeks called categories, and the Latins predicaments.

Aristotle made ten categories, *viz.* substance, quantity, quality, relation, action, passion, time, place, situation, and habit, which are usually expressed by the following technical distich.

Arbor, sex, servos, ardore, refrigerat, ustos,
Ruri, cras, stabo, nec tunicatus ero.

But as the series of categories is entirely arbitrary, some philosophers think all nature may be better considered under these seven things, spirit, matter, quantity, substance, figure, motion, and rest: and others make but two categories, substance and accident.

CATENA, in a general sense, denotes a chain. See the article CHAIN.

CATENA, in anatomy, a name used by some for the muscle, more commonly called *tibialis anticus.* See TIBIALIS.

CATENA PATRUM, in matters of literature, a book exhibiting the sentiments of the antient christian fathers, with respect to all or most doctrines.

These catenæ are very numerous, some being compiled with judgment, fidelity, and accuracy; and others with just the reverse qualities.

CATENARIA, in the higher geometry, the name of a curve line formed by a rope hanging freely from two points of suspension, whether the points be horizontal or not. The nature of this curve was sought after in Galileo's time, but not discovered till the year 1690, when Mr. Bernoulli published it as a problem. Dr. Gregory, in 1697, published a method of investigation of the properties formerly discovered by Mr. Bernoulli and Mr. Leibnitz, together

gether with some new properties of this curve. From him we take the following method of finding the general property of the catenaria. 1. Suppose a line heavy and flexible, the two extremes of which F and D (plate XXXVIII. fig. 5.) are firmly fixed in those points; by its weight it is bent into a certain curve F A D, which is called the catenaria.

2. Let B D and $b\,c$ be parallel to the horizon, A B perpendicular to B D, and D c parallel to A B, and the points B b infinitely near to each other. From the laws of mechanics, any three powers in equilibrio, are to one another as the lines parallel to the lines of their direction, (or inclined in any given angle) and terminated by their mutual concourses: hence if D d express the absolute gravity of the particle D d (as it will if we allow the chain to be every way uniform) then D c will express that part of the gravity that acts perpendicularly upon D d; and by the means of which this particle endeavours to reduce itself to a vertical position: so that if this lineola $d\,c$ be constant, the perpendicular action of gravity upon the parts of the chain, will be constant too, and may therefore be expressed by any given right line.

Further, the lineola D c will express the force which acts against that conatus of the particle D d, by which it endeavours to restore itself in a position perpendicular to the horizon, and hinders it from doing so. This force proceeds from the ponderous line D A drawing according to the direction D d; and is, cæteris paribus, proportional to the line D A which is the cause of it. Supposing the curve F A D, therefore, as before, whose vertex is A, axis A B, ordinate B D, fluxion of the axis D C $=$ B b, fluxion of the ordinate $d\,c$, the relation of these two fluxions is thus, *viz*, $dc : Dd :: a : DA$ curve, which is the fundamental property of the curve, and may be thus expressed (putting A B $= x$ and B D $= y$ and A D $= c$)

$$\dot{y} = \frac{a\dot{x}}{c}.$$

CATERGI, the name of the public carriers in the grand signior's dominions. In Europe, the merchant or traveller gives earnest to the carrier, but the catergi in Turkey gives earnest to the merchant and others, as a security that they will certainly carry their goods, or not set out with them.

CATERLAGH, a town of Ireland, in the county of Caterlagh, and province of Leinster, situated on the river Barrow, about sixteen miles north-east of Kilkenny: west long. 7°, north lat. 52° 45'.

CATERPILLAR, *eruca*, in zoology, the name of the butterfly-class of insects, in their reptile or worm-state.

It is well known, that all winged insects pass through a reptile state, before they arrive at perfection: this great change from a worm to a fly, or butterfly, was formerly esteemed a real metamorphosis of one animal to another; but later discoveries have put it beyond all doubt, that the embryo butterfly, with all the lineaments of its parent, is contained within the external cases or coverings, of the caterpillar. When the included animal has acquired a sufficient degree of strength, these coverings are thrown off, and it appears in its genuine or most perfect form of a fly, or butterfly. See the articles FLY and BUTTERFLY.

It is necessary, however, before the animal can get rid of these coverings, that it pass through a state of rest, called by naturalists the nymph or chrysalis-state. See the articles NYMPH and CHRYSALIS.

Whoever desires to have a more full account of these animals in their reptile and chrysalis-state, may consult the second volume of Reaumur's History of insects; and for a view of three several species of caterpillars. See plate XXXVIII. fig. 6.

CATERPILLAR-EATERS, small worms bred from the eggs of certain flies, lodged in bodies of larger caterpillars.

CATERPILLAR-PLANT, in botany, the name by which some call the *scorpioides*, or *scorpiurus* of botanists. See the article SCORPIURUS.

CATERPILLAR-SHELL, the english name of the verrucose *turbo*, with a broad and depressed mouth. See TURBO.

CATESBÆA, in botany, a genus of the tetrandria-monogynia class of plants, the flower of which is monopetalous, and of a funnel-form; the fruit is an oval crowned berry, with one cell, containing several angulated seeds.

CATHÆRETICS, in pharmacy, the same with sarcophagous medicines, or those of a caustic nature, serving to eat off proud flesh. See the articles SARCOPHAGOUS and CAUSTICS.

CATHARINE, or *Knights of St.* CATHARINE, a military order, instituted in 1063, for the security of travellers who came to visit the tomb of this saint on Mount Sinai. The knights received, as a badge of

of their dignity, a broken wheel with a ſword ſtained with blood. They took vows to guard the body of this ſaint, to ſecure the roads for pilgrims, to defend the rights of the church, to obey their ſuperiors in all things, and follow the rule of St. Baſil.

The *Fraternity of St.* CATHARINE *of Sienna*, is a ſort of religious ſociety inſtituted in that city, in honour, and under the patronage, of St. Catharine of Sienna, a ſaint famous for her revelations, and for her amours and marriage with Jeſus Chriſt: whoſe wedding ring, given her by her divine ſpouſe, is ſtill preſerved as an unexceptionable relick.

The fraternity of St. Catharine gives portions yearly to a certain number of maids left unprovided for; who, on condition hereof, accept of huſbands. In order to match them, a fine proceſſion is made of the girls, who are to be thus endowed; and during the march, the young men, who are willing to be ſuitors, preſent them an handkerchief. If the maid return it as ſhe received it, it imports that the offer is rejected. If ſhe tie it in a knot, the bargain is made, and the parents themſelves cannot hinder it: by reaſon ſuch matches are ſuppoſed to come from heaven, and to be made by St. Catharine herſelf. The ſame fraternity has alſo a privilege of redeeming annually two criminals condemned for murder; and it ſets at liberty the ſame number of debtors, by paying their debts.

CATHARTICS, in medicine, remedies which promote evacuation by ſtool. They are the ſame with what are commonly called purgatives.

Cathartics may be divided into two claſſes, 1. The eccoprotic or milder; 2. The draſtic, or rougher.

They are likewiſe divided according as they are ſuppoſed to purge bile, pituita, melancholly, and ſeroſities, into cholagogues, phlegmagogues, melanagogues, and hydragogues. See the article CHOLAGOGUES, &c.

Cathartics operate by vellicating and irritating the fibres and membranes of the ſtomach and inteſtines. As the periſtaltic motion of the guts is ſuch as propels continually their contents, from the pylorus down to the rectum, every irritation either quickens that motion, in its natural order, or occaſions ſome little inverſion of it; in both, what but ſlightly adheres to the coats, or inner membranes, will be looſened and ſhook off, and carried forwards with the contents; and being alſo more agitated, will be rendered more fluid: hence it appears how a cathartic haſtens and increaſes the diſcharge by ſtools. But the ſame manner of operation carries its effects much farther, in proportion to the force of the ſtimulus; for where it is great, the appendices of the bowels, and even all the viſcera in the abdomen, will, by a conſent of parts, that is, a communication of nerves, be pulled or twitched, ſo as to affect their reſpective juices, in the ſame manner as the inteſtines themſelves affect their contents. The conſequences, therefore, muſt be, that a great part will be drained back into the inteſtines, and make a part of what they diſcharge. Another way of promoting the diſcharges by ſtool, from fuſions, is to mix ſuch particles with them as prevent their running into viſcid coheſions, and, by degrees, divide and break them when in contact; whence they are rendered fitter to run off by the moſt convenient outlets.

CATHEDRA, among eccleſiaſtical writers, denotes a biſhop's ſee, or throne. Hence,

Ex CATHEDRA, a phraſe much uſed among the clergy of the romiſh church, in relation to the ſolemn decrees of the pope, delivered with all poſſible formality, he being deemed infallible then only when he ſpeaks, in this manner, *ex cathedra:* tho' others, particularly of the gallican church, allow only of his infallibility when he preſides, or iſſues decrees at the head of a general council; and others, when he ſpeaks agreeably to the ſcriptures and truth of things: but theſe laſt quite overthrow it, every other man being, in this ſenſe, equally infallible with the pope.

CATHEDRAL, a church wherein is a biſhop's ſee or ſeat.

A cathedral was originally different from what it is now, the chriſtians, till the time of Conſtantine, having no liberty to build any temple. By their churches they only meant their aſſemblies; and by their cathedrals, nothing more than conſiſtories.

By a canon of the fifth council of Carthage, it is ordered, that every biſhop ſhall have his reſidence at his principal, or cathedral church, which he ſhall not leave, to betake himſelf to any other church in his dioceſe; nor continue upon his private concerns to the neglect of his cure, and hindrance of his frequent-

ing the cathedral church. Yet Juſtinian, in Novels vi. cap. 2. ſays, "No biſhop "ſhall be abſent from his church above "a whole year, unleſs he has the em-"peror's command for it." Which implies that a biſhop might be abſent from his cathedral a year in ordinary caſes, and more in extraordinary.

CATHERINE, or CATHARINE. See the article CATHARINE.

CATHETA, or CATHETUS, See the article CATHETUS.

CATHETER, in ſurgery, a fiſtulous inſtrument, uſually made of ſilver, to be introduced into the bladder, in order to ſearch for the ſtone, or diſcharge the urine when ſuppreſſed.

The catheter may be introduced with much more eaſe in women than in men, as the urethra in the firſt is much ſhorter, wider, and in a ſtraighter courſe. In both ſexes, however, this inſtrument cannot be eaſily paſſed, but by one that is previouſly acquainted with the anatomical ſtructure of the parts.

To prevent repeating the operation of paſſing the catheter when the retention of urine will follow in a ſhort time, modern ſurgeons have, inſtead of the common or rigid catheter, provided a flexible catheter, made of flatted ſilver, convoluted in a particular manner, as in plate XXXVIII. fig. 7. to give a continual paſſage to the urine.

M. Le Cat, ſurgeon at Rouen has likewiſe invented a new ſteel grooved catheter, for performing lithotomy in a manner, akin to Celſus's, or upon the gripe, two views of which are exhibited in the above mentioned plate and figure; both being one third of the ſize which the inſtrument ought to be made of.

CATHETOLIPES, in natural hiſtory, an order of octohaedral ſelenitæ, with perpendicular plates and obtuſe angles. It is compoſed of two horizontal planes, or a top and bottom, and four trapezia, two on each ſide, divided by an obliquely-placed and ſcarcely diſtinguiſhable ridge, it riſing very little above the ſurface, and almoſt leaving the ſides in ſingle inſtead of double trapezia. It is ſhort and thick in proportion to its breadth, and is found for the moſt part, of about an inch in length, an inch in breadth, and not much leſs in thickneſs: its ends are truncated, a little ſlanting, and leave two ſmooth gloſſy planes. It conſiſts of a vaſt number of tolerably thin flakes, laid evenly and regularly in a tranſverſe order, and perpendicular to the length of the maſs, and theſe are each compoſed of a conſiderable number of moderately large filaments: the whole is fiſſile, according to the direction of the flakes, though not according to the direction of the fibres that compoſe them, without great force. The flakes are of an opake whitiſh hue in the maſs, but appear more pellucid when ſeparated. The whole is moderately heavy, and will neither give fire with ſteel, nor ferment with aqua fortis. It is found in the Staffordſhire clay-pits, in the loam-pits at Hedgerly, and near Oxford.

CATHETUS, in geometry, a line or radius falling perpendicularly on another line or ſurface: thus the catheti of a right angled triangle are the two ſides that include the right angle.

CATHETUS *of incidence*, in catoptrics, a right line drawn from a point of the object, perpendicular to the reflecting line.

CATHETUS *of reflection, or of the eye*, a right line drawn from the eye, perpendicular to the reflecting line.

CATHETUS *of obliquation*, a right line drawn perpendicular to the ſpeculum, in the point of incidence or reflection.

CATHETUS, in architecture, a perpendicular line, ſuppoſed to paſs through the middle of a cylindrical body, as a baluſter, column, *&c.*

In the ionic capital, the cathetus is a perpendicular line paſſing through the middle of the eye of the volute. See AXIS.

CATHNESS, the moſt northerly county of Scotland, having the caledonian ocean on the north, eaſt, and ſouth-eaſt, and the ſhire of Sutherland on the ſouth and weſt. Its capital is Wick.

CATHOLIC, in a general ſenſe, denotes any thing that is univerſal or general.

CATHOLIC CHURCH. The riſe of hereſies induced the primitive chriſtian church to aſſume to itſelf the appellation of catholic, being a characteriſtic to diſtinguiſh it from all ſects, who, though they had party-names, ſometimes ſheltered themſelves under the name of chriſtians.

The romiſh church diſtinguiſhes itſelf now by the name of catholic, in oppoſition to all thoſe who have ſeparated from her communion, and whom ſhe conſiders as only heretics and ſchiſmatics, and herſelf only as the true and chriſtian church. In the ſtrict ſenſe of the word, there is no catholic church in being, that is, no univerſal chriſtian communion.

CATHOLIC KING, a title which hath been hereditary to the kings of Spain, ever ſince

since Alphonsus, who having gained several victories over the Sarracens, and re-established the christian faith in Spain, was honoured with the title of catholic. Some say it was in the time of Ferdinand and Isabella.

CATHOLIC FURNACE is a little furnace so contrived as to be fit for all kinds of operations which do not require an intense fire.

CATHOLICON, in pharmacy, a kind of soft purgatory electuary, so called, as being supposed an universal purger of all humours.

CATKIN, or KATKIN, a cluster of flowers affixed to an axis; being the same with an amentaceous flower. See the article AMENTACEOUS.

CATLIN, among surgeons, a knife for cutting off corrupted parts of the body.

CATOCH, the name of a cape, or promontory, of the province of Jucatan, in Mexico: west longitude 89°, and north latitude 21° 30′.

CATOCHE, or CATOCHUS, in medicine, a disease, by which the patient is rendered, in an instant, as immoveable as a statue, without either sense or motion, and continues in the same posture he was in at the moment he was seized. The proximate cause of this disease is the immobility of the common sensory, from the time of the first attack, and therefore is an absolute rest of the blood in the brain, of the glands of the brain, and of all its emissories. This disease is generally preceded by obstinate intermitting fevers; by a dry, lean, melancholy temperament of body; by a retention of the menses and hæmorrhoids; by sudden frights; by a profound, constant, and fixed meditation on one subject. It is often cured by exciting a copious hæmorrhage from the nose; but the particular method of cure is various, according to the different causes: the patient should be excited with things that greatly strike the senses, such as light, noise, stimulating things, volatile salts, pain, friction, continual agitations, by promoting the menstrual flux, by sternutatories, and emetics, by blisters, by issues, by setons, by a moistening diet. It seldom changes to any other disease, and sometimes it has been succeeded by an epilepsy, convulsions, madness, or an atrophy, which have ended in death.

CATOCYSTI, in the history of shell-fish, an order or division of the sea-hedgehogs, or *echini marini* of authors, with the aperture of the anus in the base of the shell.

CATODON, in ichthyology, a genus of fishes, of the order of the *plagiuri*, the characters of which are these: they have no teeth in the upper jaw, nor any fin on the back.

Of this genus there are two species, 1. The sperma-ceti whale, called by authors *cete*, *cetus dentatus*, and *balæna major*, with the above-mentioned characters, and the fistula in the neck. 2. The catodon with the fistula in the snout, called by authors *balæna minor*.

CATOPSIS, in medicine, the same with *myopia*. See the article MYOPIA.

CATOPTRICS, that part of optics that treats of reflex vision, and explains the laws and properties of reflection, chiefly founded upon this truth, that the angle of reflection is always equal to the angle of incidence; and from thence deducing the magnitudes, shapes, and situations of the appearances of objects seen by the reflection of polished surfaces, and particularly plane, spherical, conical and cylindrical ones: but this doctrine being a part of optics, see the article OPTICS.

CATOPTRIC CISTULA, a machine, or apparatus, whereby small bodies are represented extremely large, and near ones extremely wide, and diffused through a vast space, and other agreeable phænomena, by means of mirrors, disposed by the laws of catoptrics, in the concavity of a kind of chest.

Of these there are various kinds accommodated to the various intentions of the artificer; some multiply objects, some deform them, some magnify, &c.

CATOPTRIC DIAL, a dial that exhibits objects by reflected rays. See the article *Reflecting* DIAL.

CATOPTRIC, or CATA-DIOPTRIC TELESCOPE, a telescope that exhibits objects by reflection. See the article *Cata-dioptric*, or *Reflecting* TELESCOPE.

CATOPTROMANCY, a kind of divination among the antients, consisting in the application of a mirror. Pausanias says, it was used by the Achaians, where those who were sick, let down a mirror, fastened by a thread into a fountain, before the temple of Ceres; then looking in the glass, if they saw a ghastly face they took it as a sure sign of death; on the contrary, if the face appear fresh and healthy, it was a sign of recovery. Sometimes it was performed by a vessel of water,

water, the middle of which was called γαςὴρ, whence the divination was called gaftromancy. See GASTROMANCY.

CATTIVO, in mufic, as cattivo tempo, a certain part of the meafure wherein it is not proper to perform certain things as to end a cadence, or place a long fyllable. It properly fignifies what we call the unaccented part of the bar, and is the fecond and laft note in common time, and the middle one of every three in triple.

CATTLE, a collective name importing all quadrupeds, ufed either in tilling the ground, or for the food of man. Under cattle, fome include all quadrupeds which affociate, or go in herds, as fheep, oxen, horfes, hogs, &c. Others define cattle to be all tame animals which graze. Cattle is fometimes divided into great, comprehending oxen, bulls, cows, calves, horfes, &c. and fmall, including fheep, lambs, goats, and the like.

Black CATTLE, the fame with the ox-kind. See the article BOS.

Stealing of cattle is felony without benefit of clergy, and that to the accomplices as well as the principals, by ftat. 14, 15, and 16 Geo. II. where, under cattle are comprehended a bull, cow, ox, fteer, bullock, heifer, calf, fheep, and lamb; and no other quadrupeds.

CATUS-PARDUS, or CATUS-MONTANUS, in zoology. See the article CAT *of the mountain*.

CATZENELLIBOGEN, a city of Heffe, fituated upon the upper Rhine, in Germany, about fixteen miles north of Mentz: eaft longitude 7° 40′, north lat. 50° 20′. It is the capital of a county of the fame name.

CAVA, or VENA CAVA, in anatomy, a vein arifing with a large finus from the right auricle of the heart. It there fends out a vein to the heart itfelf, called the coronary vein, and is divided into two trunks, a fuperior and an inferior; from the fuperior trunk of the vena cava there arife the following veins, the azygos, the bronchial, the mediaftinal, the fuperior diaphragmatic, and the fubclavians: the inferior trunk of the vena cava is remarkable for the valves, and from this arife the diaphragmatic, or inferior phrenic veins, the renal veins, the right fpermatic, the facra, and the iliacs. See VEIN, and each of thefe under its proper head.

CAVA, in geography, a town of Italy, in the kingdom of Naples, about four miles from Salerno.

CAVALCADE, a pompous proceffion of horfemen, equipages, &c. by way of parade to grace a triumph, public entry, or the like. See the article CARROUSAL.

CAVALIER, in fortification, an elevation of earth, of different fhapes, fituated ordinarily in the gorge of a baftion, bordered with a parapet, and cut into more or lefs embrafures, according to the capacity of the cavalier.

Cavaliers are a double defence for the faces of the oppofite baftion: they defend the ditch, break the befiegers galleries, command the traverfes in dry moats, fcour the failliant angle of the counterfcarpe where the befiegers have their counter-batteries, and infilade the enemies trenches, or oblige them to multiply their parallels: they are likewife very ferviceable in defending the breach, and the retrenchments of the befieged, and can very much incommode the entrenchments which the enemy make, being lodged in the baftion.

CAVALIER, in the manege, one that underftands horfes, and is practifed in the art of riding them.

CAVALRY, a body of foldiers that charge on horfeback, and may properly be called the right arm of the army: they are of great fervice in difturbing the enemy by their frequent excurfions, in intercepting convoys, and deftroying the country.

The cavalry is divided into fquadrons, and encamp on the wings of the army. Too great a number of cavalry may prove prejudicial to an army; for as they confume a great deal of forage, they may oblige a general to decamp from an advantageous poft.

CAVAN, the capital of a county of the fame name, in the province of Ulfter, in Ireland, fituated about fixty miles north weft of Dublin: weft longitude 7° 35′, north latitude 54°.

CAVAZION, or CAVASION, in architecture, denotes the hollow trench made for laying the foundation of a building, which, according to Palladio, ought to be one fixth part of the height of the whole building.

CAUCALIS, in botany, a genus of the pentandria-digynia clafs of plants, the univerfal flower of which is difform and radiated; the proper flower of the difk is male, fmall, and compofed of five inflexo-cordated equal petals; the proper flower of the radius is hermaphrodite and compofed of five inflexo-cordated unequal petals,

tals, the exterior one being larger than the rest and bifid: the fruit is of an oblato-oblong figure, striated longitudinally, with rigid scabrous bristles: the seeds are two, oblong, convex on one side and armed with prickles in order of the striæ, and plane on the other side. See plate XXXVIII. fig. 9.

CAUCASUS, a vast ridge of mountains, running from the lesser Asia through the north of Persia to the East Indies; these acquire different names in the several countries through which they pass.

CAUDA, in a general sense, denotes the tail of an animal. See the article TAIL.

CAUDA, among some anatomists, denotes the clitoris of the female pudendum. See the article CLITORIS.

CAUDA DRACONIS, the DRAGON'S-TAIL, in astronomy, the name of the moon's descending node. See the article NODE.

CAUDA LEONIS, in astronomy, a star of the first magnitude in the tail of the constellation leo. See the article LEO.

CAUDEBEC, a city of Normandy, in France, situated on the north side of the river Seine, about sixteen miles west of Rouen: east longitude 45', and north latitude 49° 32'.

CAVE, a subterraneous hollow place of a certain extent.

Some authors distinguish between a cave and a cavern, making the first the effect of art, and the latter of nature.

The caves in Wiltshire, between Luckington and Great-Badmington, nine in number, of a row, of several dimensions, the least four feet broad, and nine or ten feet long, are credibly supposed to be the tombs of some heroic men among the antient Romans, Saxons, and Danes, because spurs, and pieces of armour have been dug out of them.

CAVEAR, CAVEER, or CAVIARY, the spawn, or hard roes of sturgeon, made into small cakes, an inch thick, and of an hand's breadth, salted, and dried in the sun. This sort of food is in great repute throughout Muscovy, because of their three lents, which they keep with a superstitious exactness; wherefore the Italians settled at Moscow, drive a very great trade in this commodity throughout that empire, because there is a prodigious quantity of sturgeon taken at the mouth of the Wolga, and of the other rivers which fall into the Caspian sea. There is a pretty large quantity of this commodity consumed in Italy, and they are very well acquainted with it in France and England, where it is reckoned no despicable dish. The French and Italians get the cavear from Archangel, but they seldom get it at the first hand, for they commonly buy it of the English and Dutch.

CAVEAT, in law, a kind of process in the spiritual courts, to stop the proving of a will, the granting letters of administration, &c. to the prejudice of another. See the article PROBATE.

It is also used to stop the institution of a clerk to a benefice.

CAVEATING, in fencing, is the shifting the sword from one side of that of your adversary to the other.

Caveating is a motion whereby a man brings in an instant his sword which was presented on any side of his adversary's, generally beneath his hilt, to the opposite side; either from within, to without, or *vice versa*; or from having its point high, to be low, or the reverse; and either on the same side it is presented in, or the opposite side.

Caveating is so necessary a motion in fencing, that without it, there could be scarce any offensive part, or pursuit. It is withal so easily performed against the ordinary tierce and quart guards, that it gives a constant opportunity to make a variety of quick subtle feints against them, which by reason of the small cross made by the weapons on these guards, makes the pursuit very easy, and the parade or defence very difficult.

The consideration of this put Sir William Hope on the search of a new method or guard, which, by reason of its greater cross on the adversary's sword, renders the caveating, and making feints more slow, and consequently the parade more certain.

CAVEDO, in commerce, a Portuguese long measure, equal to 27 $\frac{354}{1000}$ english inches.

CAVERN, denotes much the same with grotto. See the article GROTTO.

CAVERNOSE, among anatomists, an appellation given to several parts of the body, on account of their spongy structure: thus the cavernosa corpora of the penis are two spongy bodies, made up of a number of small caverns or cells. These are the two bodies which constitute the penis; they arise distinct and separate on each side of the ossa pubis, as it were from peculiar thalami: after this they join, and, in that original state, are carried

ried into the glans. If any liquid matter be impelled into these, or if they be inflated, the penis becomes rigid. These two bodies are also termed corpora spongiosa.

CAVESON, or CAVEZON. See the article CAVEZON.

CAVETTO, in architecture, a hollow member, or round concave moulding, containing a quadrant of a circle, and having a quite contrary effect to that of a quarter-round: it is used as an ornament in cornices.

Mr. Felibien takes notice, that workmen confound the cavetto with a scotia, but improperly, the cavetto being in fact only half a scotia. See the article SCOTIA.

CAVEZON, in the manege, a sort of nose-band, either of iron, leather, or wood, sometimes flat, and at other times hollow or twisted, clapt upon the nose of a horse, to wring it, and so forward the suppling and breaking of the horse.

An iron cavezon is a semicircle or band of iron, consisting of two or three pieces joined by hinges, and mounted with a head-stall, a throat-band, and two straps or reins with three rings; one rein passes through the middle ring, when we mean to make a horse walk round a pillar; through the two side-rings we pass the two reins, which the rider holds in his hand, or makes fast to the saddle, in order to keep the horse's head in subjection, *&c.*

CAVILLON, a town of Provence in France, situated on the river Durance, about fifteen miles south of Avignon: east longitude 5°, and north latitude 43° 50′.

It is a bishop's see, and subject to the pope.

CAVIN, in the military art, a natural hollow, fit to lodge a body of troops: if there happen to be any near a place besieged, it is of great use to the besiegers; for by the help of such a place they can open the trenches, make places of arms, or keep guards of horse, without being in danger of the enemies shot.

CAVITY, in a general sense, denotes any hollow: and hence anatomists have divided the body into three cavities or venters, and the limbs; the cavities are the head, the thorax, and the abdomen. See the article ABDOMEN, *&c.*

The cavities of the bones, Heister observes, are of two kinds, those of the articulations, and those answering other purposes, and called cells, caverns, *foramina* or apertures, *fossæ* or deep channels, and *sulci* or shallow ones.

CAUK, or CAWK, a term used among miners, for a coarse sparry stone, of a white colour, found in the lead-mines. See the article SPAR.

CAUKING, or CAULKING *of a ship*, is driving oakum, or the like, into all the seams of the planks of a ship, to prevent leaking and keep out the water.

CAULKING-IRONS, are iron chissels for that purpose.

Some of these irons are broad, some round, and others grooved.

After the seams are stopped with oakum, it is done over with a mixture of tallow, pitch, and tar, as low as the ship draws water.

CAUKING-TIME, in falconry, a hawk's treading time.

CAUL, among miners, a reddish pink-coloured stone, found in the tin-mines.

CAUL, in anatomy, a membranaceous part of the abdomen, covering the greatest part of the guts, usually furnished with a large quantity of fat, placed under the peritonæum, and immediately over the intestines, called by some authors rete, or reticulum, from the number of holes appearing in it, when raised, and giving it the resemblance of a net; but it is most frequently called omentum. See the article OMENTUM.

CAUL is also a little membrane, found on some children, encompassing the head, when born.

Some take this to be only a fragment of the membranes of the fœtus, which generally break at the birth of the child.

CAULICOLES, or CAULICOLI, are eight lesser branches or stalks, in the corinthian capital, springing out from four greater or principal cauls, or stalks.

The eight volutes of this order are sustained by four cauls, or primary branches, of leaves, and from which these caulicoles or lesser foliages do arise.

CAULIFEROUS, an appellation given to such plants as have a perfect caulis or stem. See the article CAULIS.

CAULIFLOWERS, in gardening, a much esteemed species of *brassica*, or cabbage. See the article BRASSICA.

Cauliflowers have of late years been so much improved in England, as to exceed in goodness and magnitude any produced in most parts of Europe, and, by the skill of the gardener, are continued for several months together, but the most com-

common seafon for them is in May, June, and July.

In order to have very early cauliflowers, we fhould make choice of a good rich fpot of ground, that is well defended from the north, eaft, and weft winds, with hedges, pales, or walls: this ground fhould be well trenched, burying therein a good quantity of rotten dung; the ground fhould then be levelled; and if it be naturally a wet foil, you fhould raife it up in beds, about two feet and a half or three feet broad, and four inches above the level of the ground. In planting your cauliflowers you fhould allow about two feet fix inches diftance from glafs to glafs in the rows, always putting two good plants under each glafs, which may be at about four inches from each other; and if you defign them for a full crop, they may be three feet and a half row from row: but if you intend to make ridges for cucumbers or melons between the rows of the cauliflowers, as is generally practifed by the gardeners near London, you muft then make the rows eight feet afunder.

CAULINE, in a general fenfe, denotes any thing belonging to the caulis or ftalk of plants. See the article CAULIS.

CAULINE LEAF, among botanifts, that growing from the ftalk of a plant.

CAULIS, among botanifts, denotes the ftalk of herbaceous plants: this, in trees, is called *caudex*, or trunk; and, in graffes, *culmus*, or ftem.

CAUSA MATRIMONII PRÆLOCUTI, in common law, a writ that lies where a woman gives land to a man in fee, to the intent he fhall marry her, and he refufes to do it in a reafonable time, being thereunto required by the woman: and in fuch cafe, for not performing the condition, the entry of the woman into the lands again, has been adjudged lawful. The hufband and wife may fue this writ againft another, who ought to have married her.

CAUSA NOBIS SIGNIFICES, in law, a writ directed to the mayor of a town, *&c.* who being by the king's writ commanded to make feifin of lands to the king's grantee, delays fo doing. This writ requires him to fhew caufe why he makes delay.

CAUSALTY, among metaphyficians, the action or power of a caufe in producing its effect.

It is a difpute among the fchool-philofophers, whether, and how, the caufalty is diftinguifhed from the caufe and the effect? fome hold it a mode or modal entity, fuperadded to the caufe, *&c.* others contend for its being the caufe itfelf. See the article CAUSE.

CAUSALTY, among miners, denotes the lighter, fulphureous, earthy parts of ores, carried off in the operation of wafhing.

This, in the mines, they throw in heaps upon banks, which, in fix or feven years, they find it worth their while to work over again. See ORE and WASHING.

CAUSE, *caufa*, that from whence any thing proceeds, or by virtue of which any thing is done: it ftands oppofed to effect. We get the ideas of caufe and effect, fays Mr. Locke, from our obfervation of the viciffitude of things, while we perceive fome qualities or fubftances begin to exift, and that they receive their exiftence from the due application and operation of other beings. That which produces, is the caufe, and that which is produced, the effect: thus, fluidity in wax is the effect of a certain degree of heat, which we obferve to be conftantly produced by the application of fuch heat.

Firft CAUSE, that which acts of itfelf, and of its own proper power or virtue: God is the only firft caufe in this fenfe.

Second CAUSES are thofe which derive the power and faculty of action from a firft caufe: thefe are improperly called caufes, in regard they do not, ftrictly fpeaking, act at all, but are acted on: of this kind are all thofe that we term natural caufes. Philofophers are divided as to the action whereby fecond caufes produce their effects: fome maintain, that the caufalty cannot be produced, fince it is that which produces: others will have them to act truly by their action; but they are at a lofs ftill about that action: fome do not allow that corporeal fubftances can produce any thing but accidents: the fyftem of Avicenna is, that God produces, immediately, a moft perfect fpiritual fubftance; this produces another, lefs perfect; that, a third; and thus to the laft; which laft produces all the corporeal fubftances; and thofe corporeal fubftances, accidents: as to the manner of their agency, fome maintain, that the fubftantial form of fecond caufes produces forms, and the accidental ones, accidents: others, that forms produce other forms and accidents; and others, that accidents alone are capable of producing accidents and forms.

Caufes

Caufes are diftinguifhed, by the fchools, into efficient, material, final, and formal.

Efficient CAUSES are the agents employed in the production of any thing.

Material CAUSES, the fubjects whereon the agents work; or the materials whereof the thing is produced.

Final CAUSES are the motives inducing an agent to act; or the defign and purpofe for which the thing was done.

Lord Bacon fays, that the final caufe is fo far from being ferviceable, that it corrupts the fciences, unlefs it be reftrained to human actions: however, continues he, final caufes are not falfe, nor unworthy of inquiry in metaphyfics: but their excurfions into the limits of phyfical caufes hath made a great devaftation in that province; otherwife, when contained within their own bounds, they are not repugnant to phyfical caufes.

Formal CAUSE, the change refulting from the action; or that which determines a thing to be this, and diftinguifhes it from every thing elfe: thus, the foul is held the formal caufe of man.

Caufes are again diftinguifhed into phyfical and moral.

Phyfical CAUSE, that which produces a fenfible corporeal effect; as the fun is the phyfical caufe of light: others define it, that which produces its effect by a phyfical virtue.

The cartefians refolve all phyfical caufes into occafional ones.

Occafional CAUSES, therefore, are only the occafions, not the direct caufes of their effects. See the article OCCASION.

The foul, fay thefe philofophers, is not able to act on the body; nor the body, reciprocally, on the foul: to keep up an intercourfe between them, God, on occafion of the motion of the body, impreffes a fenfation on the foul; and an occafion of a fentiment of the foul, impreffes a motion on the body; the motions therefore of the foul and body, are only occafional caufes of what paffes in the one or in the other; thus, fay they, the ftroke or percuffion is only the occafional caufe of the motion produced in the body ftruck: it is God, who is the direct efficient caufe, &c.

Moral CAUSE, that which produces a real effect, but in things immaterial; as repentance is the caufe of forgivenefs. A moral caufe is alfo defined, that which determines us, though not neceffarily, to do, or not to do, any thing; as advice, intreaties, commands, menaces, &c.

It is to be obferved, that, in this fenfe, a moral caufe is only applicable to a free intelligent agent: It is alfo obfervable, that the latter notion of a phyfical as well as a moral caufe is the moft juft, clear, and diftinct.

Caufes are again diftinguifhed into univerfal, or particular; principal, or inftrumental; total or partial; univocal, equivocal, &c.

Equivocal CAUSE, that which is of a different kind and denomination from its effect: thus it is, the fun is faid to be the caufe of animal life.

Inftrumental CAUSE, that made ufe of by the principal, to produce its effect; or that which is excited to produce an effect beyond the meafure of its own perfection; fome will have all fecondary caufes to be inftrumental ones.

Partial CAUSE, that which concurs with fome other in producing the effect.

Particular CAUSE, that which can only produce a fingle effect, or a certain kind of effect.

Principal CAUSE, that which gives motion to the inftrument, or which does not operate beyond its own natural efficacy.

Total CAUSE, that which produces the whole effect.

Univocal CAUSE, that which is of the fame kind and denomination with its effect; as, love is the caufe of love.

Univerfal CAUSE, that which, by the extent of its power, may produce all effects.

CAUSE, among civilians, the fame with action. See the article ACTION.

CAUSEWAY, or CAUSEY, a maffive conftruction of ftones, ftakes, and fafcines; or an elevation of fat vifcous earth, well beaten; ferving either as a road in wet marfhy places, or as a mole to retain the waters of a pond, or prevent a river from overflowing the lower grounds.

CAUSTICS, in phyfic, an appellation given to medicines of fo hot and fiery a nature, that, being applied, confume, and, as it were, burn the texture of the parts, like hot iron.

Cauftics differ from cauteries in that they perform their effects flower, and with lefs force and pain: they are ufed to eat off proud fungous flefh; they alfo penetrate within hard callous bodies, and liquify the humours; and are particularly applied in abfceffes and impofthumations, to eat

eat through to the suppurated matter, and give it vent; sometimes also to make issues, in parts where cutting is difficult, or inconvenient.

Caustics are generally divided into four sorts, the common stronger caustic, the common milder caustic, the antimonial caustic, and the lunar caustic.

The stronger caustic is prepared by boiling to a fourth part, any quantity of the lees of almond-soap, adding lime, that has been kept in a vessel pretty close stopt for several months; the lime is to be added till all the liquor is absorbed, and the whole reduced to a paste, which is to be kept in a vessel well stopt.

The common milder caustic is prepared by taking equal parts of soft soap, and fresh quick-lime, and mixing them at the time of using.

The antimonial caustic is prepared thus; take of antimony one pound, of corrosive sublimate, two pounds; and being reduced separately into powder, mix them well, and distil them in a retort with a wide neck, in a gentle heat of sand; let what ascends into the neck of the retort be exposed to the air, that it may run into a liquor.

The method of preparing the lunar caustic is as follows: dissolve pure silver by a sand-heat, in about twice its weight of aqua fortis; then dry away the humidity with a gentle fire, afterwards melt it in a crucible, that it may be poured into proper moulds, carefully avoiding overmuch heat, lest the matter should grow too thick.

CAUSTIC CURVE, in the higher geometry, a curve formed by the concourse or coincidence of the rays of light, reflected, or refracted, from some other curve.

Every curve has its twofold caustic; accordingly, caustics are divided into catacaustics, and diacaustics; the one formed by reflection, the other by refraction. See the articles CATACAUSTIC and DIACAUSTIC.

CAUSTIC GLASSES, the same with burning-glasses. See BURNING-GLASS.

CAUSUS, or BURNING-FEVER, a species of continual fever, accompanied with a remarkable inflammation of the blood. The principal symptoms are a heat almost burning to the touch, the breath extremely hot, a driness of the whole skin, the tongue parched and rough, and an unquenchable thirst. See the article FEVER.

CAUTERIZATION, the application of cauteries to any part of the body. See the next article.

Cauterization with moxa is wonderfully extolled by some as the most effectual means to extirpate the gout; but it is at present in disuse, and not without reason, for besides the acute pain which it creates, it is frequently found to have little or no effect. This cauterization, however, is said to be at present in use among the Arabians; and the Japonese and Chinese have it in so great esteem, that it makes one of their chief remedies.

CAUTERY, in surgery, a medicine for burning, eating, or corroding any solid part of the body.

Cauteries are distinguished into two classes, actual and potential: by actual cauteries are meant red hot instruments, usually of iron, which are applied to many parts and disorders; and by potential cauteries are understood certain kinds of corroding medicines. See the article CAUSTICS.

Cauteries have manifold uses, for they not only destroy the dead parts of carious bones, remove cancers, schirri, excrescencies, carbuncles, and mortified parts, but they are also used to make issues and setons, to stop hæmorrhages in wounds and amputations, and lastly to remove an amaurosis, epilepsy, sciatica, with pains in the teeth and other parts.

For the right application of cauteries, various observations are necessary: 1. The size and figure of the cautery should correspond to that of the disordered part. 2. It is necessary to secure the sound parts from the cautery, to prevent giving more than necessary pain. 3. When the instrument is sufficiently hot, it is to be applied, and strongly impressed upon the disordered part, till the bottom of it appears sound. To effect this more speedily, it will be necessary to have several cauteries in readiness, a caution more especially to be observed in carious bones and large hæmorrhages.

Several physicians have observed, that cauteries succeeded in apoplexies when all other remedies have failed. But for the part to which the cautery is to be applied there are various opinions; some prefer the occiput; some the nape of the neck, between the first and second vertebræ; some the meeting of the coronal and sagittal sutures, and others pitch upon other parts. Mistichellius, an italian writer, asserts, that no part can be so proper for cauteri-

cauterizations in apoplexies, as the ſoles of the feet.

CAUTION, *cautio*, in the civil and ſcotch law, denotes much the ſame with what, in the law of England, is called bail. See the article BAIL.

CAUTIONE ADMITTENDA, in law, a writ which lies againſt a biſhop that holds an excommunicated perſon in priſon for contempt, after he has offered ſufficient caution or ſecurity to obey the orders of the church. On receipt of this writ, the ſheriff warns the biſhop to take caution.

CAXA, a little coin made of lead, mixed with ſome ſcoria of copper, ſtruck in China, but current chiefly at Bantam in the iſland of Java, and ſome of the neighbouring iſlands.

The caxas are of two kinds, great and ſmall. Of the ſmall 300,000 are equal to fifty-ſix livres five ſols french money; and of the great, 6000 are equal to four ſhillings and ſix-pence ſterling.

CAXAMALCA, the name of a town and diſtrict of Peru, in South America, where there was a moſt ſumptuous palace belonging to the Yncas, and a magnificent temple dedicated to the ſun.

It was at Caxamalca that Pizarro put to death Athualpha, their laſt king.

CAZEMATE, or CASEMATE, in fortification, a certain retired platform in the flank of a baſtion, for the defence of the moat and face of the oppoſite baſtion. Sometimes there are three ſuch platforms one behind another, the uppermoſt of which is on the terre plein of the baſtion, which makes the other two be called *places baſſes*, or low places. They are covered from the enemies batteries by a work of earth added to the angle of the ſhoulder, of a circular and ſometimes of a ſquare form, called ſhoulder, orillon, or epaulement. See the articles ORILLON, *&c.*

It is very ſeldom that cazemates are uſed now a-days, becauſe the enemies batteries are apt to bury the cannon they contain under the ruins of their vaults; beſides, that the ſmoke with which they are continually filled, renders them unſupportable to the engineers. It is for this reaſon the later engineers make them open at top, contenting themſelves with fortifying them with a parapet.

CASEMATE is alſo uſed for a well with ſeveral ſubterraneous branches dug in the paſſage of the baſtion, till the miner is heard at work, and air given to the mine.

CAZERN. See the article CASERN.

CEANOTHUS, in botany, a genus of the pentandria-monogynia claſs of plants, the calyx of which is a turbinated ſingle-leaved perianthium, permanent, and cut at the brim into five acute ſegments; the corolla conſiſts of five equal, roundiſh, compreſſed, obtuſe, patent petals, leſs than the cup; the fruit is a dry berry, containing three cells, in each of which is lodged an oval ſingle ſeed.

CEDAR, *cedrus*, according to Tournefort, makes a diſtinct genus of plants, but is comprehended by Linnæus among the junipers. See the article JUNIPER.

Cedar-wood, which is of a fragrant ſmell and fine grain, is almoſt incorruptible by reaſon of its bitterneſs, which renders it diſtaſteful to worms. Hiſtorians tell us, that ſome of this timber was found in the temple of Apollo at Utica, two thouſand years old. The cedars of Lebanon are famous, as having been uſed by Solomon in building the temple of Jeruſalem.

CEDRIA, κεδρία, a reſinous liquor, iſſuing from the great cedar tree, or cedar of Lebanon. The word is alſo written cedrium, κεδρίον, and cedrinum, κεδρινον.

Cedria, when good, yields a ſtrong ſmell, is tranſparent, of a thick fatty conſiſtence, ſo that in pouring it out, it does not fall too faſt or freely, but equally drop by drop. It is poſſeſſed of two oppoſite qualities, *viz.* to preſerve dead bodies, by its drying and conſuming ſuperfluous moiſture, without damaging the ſolid parts; and to putrify the ſoft and tender parts of living bodies, without exciting any pain.

The cedria is properly the tear of the cedar. Some call it the gum, others the pitch of the cedar. The ſame denomination is alſo given to the cedrelæon, or oil of the cedars, which differs little from the reſin, except that it is of a thinner conſiſtence.

CEDRUS, the CEDAR, in botany. See the article CEDAR.

CEGINUS, in aſtronomy, a fixed ſtar of the third magnitude, in the left ſhoulder of Bootes. See the article BOOTES.

Its longitude, according to Hevelius, for the year 1700, was 13° 26′ 4″, and its latitude northern 49° 35′ 47″.

CEILING, in architecture, the upper part or roof of a room, being a lay or covering of plaſter over laths, nailed on the bottom of the joiſts which bear the floor of the upper room, or on joiſts put up for that purpoſe where there is no upper room, hence called ceiling joiſts.

Theſe

These plaiftered ceilings are much ufed in England, more than in any other country: nor are they without their advantages, as they make the room lightfome, are good in cafe of fire, &c.

CELANDINE, *chelidonium*, in botany. See the article CHELIDONIUM.

CELARENT, in logic, a mode of fyllogifm, wherein the major and conclufion are univerfal negative propofitions, and the minor an univerfal affirmative. As

CE No man that is a hypocrite can be faved:

LA Every man who with his lips only cries Lord, Lord, is a hypocrite:

RENT Therefore, no man, who with his lips only cries Lord, Lord, can be faved.

CELASTRUS, in botany, a genus of the pentandria-monogynia clafs of plants, whofe corolla confifts of five equal, oval, patent, feffile petals, with their ends turned back: the fruit is a coloured, oval capfule, obtufely trigonal, gibbous, formed of three valves, and containing three cells, in each of which are fmall, oval, coloured feeds, fmooth, and half covered by a calyptra, which is alfo coloured, and has an unequal rim, divided into four fegments.

CELEBES, or MACASSER, an ifland of the indian ocean, fituated between 116° and 124° eaft longitude, and between 2° north and 6° fouth latitude.

CELERES, in roman antiquity, a regiment of body guards belonging to the roman kings, eftablifhed by Romulus, and compofed of 300 young men chofen out of the moft illuftrious roman families, and approved by the fuffrages of the curiæ of the people, each of which furnifhed ten.

CELERI, in botany, the englifh name for feveral fpecies of apium. See APIUM.

CELERITY, in mechanics, the fwiftnefs of any body in motion.

It is alfo defined to be an affection of motion, by which any moveable body runs through a given fpace in a given time. See VELOCITY and MOTION.

CELESTIAL, or COELESTIAL. See the article COELESTIAL.

CELESTINS, in church-hiftory, a religious order of chriftians, reformed from the bernardins by pope Celeftin V. Their rules are divided into three parts; the firft, of the provincial chapters, and the elections of fuperiors; the fecond contains the regular obfervances; and the third, the vifitation and correction of the monks. The celeftins rife two hours after midnight to fay matins: they eat no flefh at any time, except when they are fick: they faft every Wednefday and Friday to the feaft of the exaltation of the holy crofs; and from that feaft to Eafter, every day.

CELEUSMA, κέλευσμα, in antiquity, a naval fhout ferving as a fignal for the mariners, or rowers in fhips, to ply their oars, to row brifker, or to ceafe from rowing: it is alfo made ufe of to fignify the joyful acclamation of vintagers, and the fhouts of the conquerors, infulting over the vanquifhed.

CELIAC, or COELIAC PASSION, a fort of diarrhœa, or flux of the belly, wherein the aliment comes away either crude or chylified inftead of excrements. See the article COELIAC PASSION.

CELIBACY, the ftate of unmarried perfons, to which, according to the doctrine, or at leaft the difcipline, of the church of Rome, the clergy are obliged.

Dr. Bingham obferves, that the prohibiting marriage after ordination, was an incroachment upon the primitive rule, and never received in the greek church; fo that it is not to be reckoned among the ftanding rules of difcipline, which concerned the whole church. In the churches of France and Germany, celibacy was not univerfally practifed by the clergy in the eighth century, as appears by the fixth canon of pope Adrian's collection. As to the fettling celibacy in the weftern church, it was brought about with extreme difficulty, a great many provincial councils were convened in Germany and elfewhere. In the church of England, the marriage of the clergy was generally practifed to the end of the tenth century, and in a great meafure to the beginning of the twelfth.

That celibacy has no pretence of divine or apoftolical inftitution, feems no difficult point to prove: whence it is, at firft, hard to conceive from what motive the court of Rome perfifted fo very obftinately to impofe this inftitution on the clergy. But we are to obferve, that this was a leading ftep to the execution of the project formed of making the clergy independent of princes, and rendering them a feparate body, to be governed by their own laws. In effect, while priefts had children, it was very difficult to prevent their dependance upon princes, whofe favours have fuch an influence on private men: but having no family, they were more at liberty to adhere to the pope.

CELL, *cella*, a little apartment or chamber, ſuch as thoſe wherein the antient monks, ſolitaries, and hermits, lived in retirement.

Cells are ſtill retained in divers monaſteries. Thus the dormitory is frequently divided into ſo many cells. The carthuſians have each a ſeparate houſe, which ſerve them as a cell.

The hall wherein the roman conclave is held, is divided by partitions into divers cells, for the ſeveral cardinals to lodge in.

CELLS are alſo the little diviſions in honey-combs, which are always regular hexagons.

CELLS, in botany, the hollow places between the partitions in the pods, huſks, and other ſeed-veſſels of plants: according as there is one, two, three, *&c.* of theſe cells, the veſſel is ſaid to be unilocular, bilocular, trilocular, *&c.*

CELLS, in anatomy, little bags or bladders where fluids or other matters are lodged, called loculi, cellulæ, *&c.*

Adipoſe CELLS. See the article ADIPOSE.

CELL, in geography, a town of Triers, in the circle of the lower Rhine, in Germany, ſituated on the eaſtern ſhore of the Moſelle, twenty-ſix miles north-eaſt of Triers; eaſt long. 6° 45′, and north lat. 50° 10′.

CELLAR, the loweſt room in a houſe, the ceiling of which is level with the ſurface of the ground on which the houſe ſtands, or at moſt but very little higher.

As to the ſituation of cellars, Sir Henry Wotton ſays, they ought, unleſs the whole houſe be cellared, to be ſituated on the north ſide of the houſe, as ſtanding in need of a cool and freſh air.

CELLARER, an officer in a monaſtery, who takes care of the temporalities, and furniſhes the convent with proviſion.

The word is borrowed from the roman law, for cellerarius, in the digeſts, ſignifies a comptroller of the accounts.

CELOSIA, in botany, a genus of the pentandria-monogynia claſs of plants, the flower of which conſiſts of five lanceolated, acuminated, erect, rigid, and permanent petals; the fruit is a globoſe capſule, ſurrounded with a corolla, with one cell opening horizontally, and containing ſeveral roundiſh emarginated ſeeds.

CELSIA, in botany, a genus of the didynamia-angioſpermia claſs of plants, the flower of which is monopetalous, with a plain limb and roundiſh ſegments: the fruit is a roundiſh capſule, compreſſed at the top, acuminated, adhering to the cup; with two cells, containing ſeveral ſmall angulated ſeeds.

CELTIS, the NETTLE-TREE, in botany, a genus of plants belonging to the polygamia-monoecia claſs of plants. In the hermaphrodite flower there is no corolla: the fruit is a globoſe drupe with one cell, containing a roundiſh nut. In the male flower there is no corolla.

The fruit of this plant, when not too ripe, is aſtringent, and binds the belly; and the decoction of it is good for a dyſentery, and for women labouring under an immoderate flux of the menſes.

CEMENT, or CÆMENT. See the article CÆMENT.

CEMENTATION, or CÆMENTATION. See the article CÆMENTATION.

CEMETERY, or COEMETERY. See the article COEMETERY.

CENCHRIS, in zoology, a genus of ſerpents, the abdomen of which is covered with 240 ſcuta, and the tail with 64: add to this, that its head is covered with ſmall ſcales, and the tail has no appendix. It is otherwiſe called boiguacu. See the article BOIGUACU.

CENCHRUS, in botany, a genus of the polygamia-monoecia claſs of plants. There are two flowers, the one male, the other hermaphrodite; the proper flower is ſingle, with two lanceolated, acuminated, concave valves: there is no pericarpium, and but one roundiſh ſeed.

CENOBITE, or COENOBITE. See the article COENOBITE.

CENOTAPH, κενοτάφιον, in antiquity, a monument erected in honour of the dead, but not containing any of their remains. Of theſe there were two ſorts. One erected for ſuch perſons as had been honoured with funeral rites in another place; and the ſecond ſort, for thoſe that had never obtained a juſt funeral.

The ſign whereby honorary ſepulchres were diſtinguiſhed from others, was commonly the wreck of a ſhip, to denote the deceaſe of the perſon in ſome foreign country.

CENSAL, in commerce, a word uſed on the coaſt of Provence, and in the ports of the Levant, to denote a broker. See the article BROKER.

Moſt of the cenſals of the Levant, and particularly thoſe at Grand Cairo, are Arabs by nation. They commonly receive one half *per cent.* for their trouble.

CENSER, a ſacred inſtrument made uſe of in the religious rites of the antients.

It was a vafe, containing incenfe to be ufed in facrificing to the gods. There is the reprefentation of one in Montfaucon's antiquities, under the figure of a fhallow cup with a lid to it, and chains running through fmall handles. Cenfers were likewife in ufe among the Jews, as we find in the 1 Kings vii. 50. "Solomon, when he prepared furniture for the temple of the Lord, among other things made cenfers of pure gold." The cenfer is alfo ufed in romifh churches.

CENSOR, in roman antiquity, a magiftrate, whofe bufinefs it was to reform the manners and to value the eftates of the people.

There were two cenfors firft created in the 311th year of Rome, upon the fenate's obferving that the confuls were generally fo much taken up in military actions, as to have no leifure to attend to private affairs. At firft they were chofen out of the fenate, but after the plebeians had got the confulate open to them, they foon arrived at the cenforfhip. The cenfors degraded fenators upon occafion, made the *princeps fenatus*, infpected the management of private families relating to education and expence, and, in fhort, had authority to reprimand and correct any irregularity, and to take care that perfons both in public and private capacity, behaved themfelves in a becoming manner. Cicero reduces their functions to the numbering of the people, the correction and reformation of manners, the eftimating the effects of each citizen, the proportioning of taxes, the fuperintendence of tribute, the exclufion from the temples, and the care of the public places. The office was fo confiderable, that none afpired to it till they had paffed all the reft; fo that it was looked on as furprifing, that Craffus fhould be admitted cenfor, without having been either conful or prætor. It was held at firft for five years, but Mamercus Æmilius fhortened the term to eighteen months.

After the cenfors were elected in the comitia centurialia, they proceeded to the capitol, where they took an oath not to manage either by favour or difaffection, but to act equitably and impartially thro' the whole courfe of their adminiftration: and notwithftanding their great authority, they were obliged to give an account of their management to the tribunes and *ædiles curules*. In procefs of time, the dignity of this office dwindled very much; under the emperors it funk to nothing, as their majefties engroffed all the branches of that jurifdiction. The republic of Venice has at this day a cenfor of manners of their people, whofe office lafts fix months.

CENSOR *of books*, are a body of doctors or others eftablifhed in divers countries to examine all books before they go to the prefs, and to fee they contain nothing contrary to faith and good manners.

At Paris, the faculty of theology claim this privilege, as granted to them by the pope; but in 1624 new commiffions of four doctors were created by letters patent the fole cenfors of all books, and anfwerable for every thing contained therein.

In England, we had formerly an officer of this kind, under the title of licenfer of the prefs; but fince the revolution, our prefs has been laid under no fuch reftraint.

CENSURE, a judgment which condemns fome book, perfon or action, or more particularly a reprimand from a fuperior.

Ecclefiaftical cenfures, are penalties by which, for fome remarkable mifbehaviour, chriftians are deprived of the communion of the church, or prohibited to execute the facerdotal office.

There are different kinds of cenfures diftinguifhed by canonifts, 1. Into thofe called *de jure*, that is, fuch as are appointed by law, and into thofe *ab homine*, which are pronounced by a fuperior for fome particular fact. 2. Into cenfures *latæ fententiæ*, which are incurred by committing the prohibited actions without any need of judgment pronounced; and cenfures *fententiæ ferendæ*, which, though deferved by committing the fault againft which the penalty is levelled, yet the cenfure is not incurred till fentence is pronounced by an officer commiffioned for that purpofe. 3. Into juft and unjuft cenfures. 4. Into valid and invalid. And, 5. Into thofe referved for a fuperior judge, and thofe not referved.

The pains and penalties attending cenfures, are excommunication, fufpenfion, interdict, irregularity, depofition, &c. See each of thefe under its proper head.

CENSURE in feveral manors of Cornwall and Devon, a cuftom by which all refidents above the age of fixteen, are cited to fwear fealty to the lord, and to pay 11 d. *per* poll, and 1 d. yearly after for ever. The perfons thus fworn are called cenfors.

CENSUS, in roman antiquity, an authentic

tic declaration made before the censors, by the several subjects of the empire, of their respective names and places of abode. This declaration was registered by the censors, and contained an enumeration, in writing, of all the estates, lands, and inheritances they possessed; their quantity, quality, place, wives, children, domestics, tenants, slaves.

The census was instituted by Servius Tullius, and was held every five years. It was of great service to the republic, because, by means of it, they discovered the number of citizens capable of bearing arms, and the money they could afford for the expence of a war. It went thro' all ranks of people, tho' under different names; that of the common people was called *census*; that of the knights, *census*, *recensio*, *recognitio*; that of the senators, *lectio*, *relectio*.

The census which intitled one to the dignity of a knight, was 400,000 sesterces: that of a senator, was double that sum.

In the voconian law, census is used for a man, whose estate in the censor's books is valued at 100,000 sesterces.

CENT, in commerce, an abridgment of centum, is used to express the profit or loss arising from the sale of any commodity. Thus we say, there is 10 *per cent.* profit, or 10 *per cent.* loss; which is $\frac{1}{10}$ profit, or $\frac{1}{10}$ loss, upon the sale of the whole. In the trade of money, it signifies the benefit or interest of any sum of money. Thus money is worth 4 or 5 *per cent.* upon exchange. But in brokerage, it must be observed, that cent is applied in a different manner. For example, if a broker or exchange agent takes $\frac{1}{8}$ *per cent.* for the contracts made by his interposition, it is to be understood that there is paid to him $\frac{1}{8}$ of a pound, *viz.* 2 s. 6 d. for every 100 l. he negotiated.

When an agent or factor sets down at the bottom of an invoice, which he sends to his principal, 2 *per cent.* commission, it signifies that he takes so many times 2 l. as there are 100 l. in the sum total of the invoice. And it must be observed, that this commission is taken both on the principal price of the commodities bought, and on the charges and expences incurred, as duties paid, porterage, package, postage of letters, *&c.*

CENTAUR, or HIPPOCENTAUR, in antient poetry, denotes a fabulous kind of animal, half man, half horse.

The Thessalians, who first taught the art of breaking horses, appearing on horse-back to make only one body with the animal on which they rode, gave rise to the fiction of the hippocentaur.

CENTAUR, *centaurus*, in astronomy, a constellation of the southern hemisphere commonly joined with the wolf, and called *centaurus cum lupo*. In Ptolemy's catalogue it consists of 19 stars; in Tycho's of 4; and of 13 in the britannic catalogue.

CENTAUREA, CENTAURY, in botany, a genus of the syngenesia-polygamia-frustranea class of plants: the compound flower of which is tubulated and difform; the proper one, of the hermaphrodite, is monopetalous, with a ventricose, oblong, erect limb, terminating in five linear erect segments: the female flower is monopetalous, with an oblong, oblique, unequally-divided limb. There is no pericarpium except the calyx, which is changed into one, and connivent, containing solitary seeds in the hermaphrodite: the females prove abortive. See plate XXXVIII. fig. 8.

The root of this plant is esteemed in fluxes, dysenteries, spitting of blood, and by some is much commended in all diseases arising from the obstructions of the meseriac veins.

This genus comprehends the centaureum majus et minus of Tournefort, the root and leaves of which are esteemed vulnerary, stomachic, and astringent.

CENTAURY. See CENTAUREA.

CENTER, or CENTRE, *centrum*, in geometry, a point equally distant from the extremities of a line, figure or body.

CENTER *of a bastion*, a point in the middle of the gorge of a bastion, whence the capital line commences, and is generally at the angle of the inner polygon. See the article BASTION.

CENTER *of a battalion*, the middle of a battalion, where there is generally left a square space for holding the cloaths and baggage.

CENTER *of a circle*, a point in the middle of a circle, or circular figure, from which all lines drawn to the circumference are equal.

CENTER *of a conic section*, a point wherein the diameters intersect each other. In the ellipsis, this point is within the figure, and in the hyperbola, without.

CENTER *of a curve of the higher kind*, the point where two diameters concur. When

all

all the diameters concur in the fame point, Sir Ifaac Newton calls it the general center.

CENTER *of the equant*, in the old aftronomy, a point in the line of the aphelion, being fo far diftant from the center of the eccentric towards the aphelion, as the fun is from the center of the eccentric towards the perihelion.

CENTER *of a dial*, that point where the axis of the world interfects the plane of the dial; and therefore in dials that have centers, it is that point wherein all the hour-lines meet. All dials have centers, except fuch as have their planes parallel to the axis of the world.

CENTER *of an ellipfis*, the point where the tranfverfe and conjugate diameters interfect each other.

CENTER *of gravitation and attraction*, in phyfics, that point to which the revolving planet or comet is impelled or attracted by the impetus of gravity.

CENTER *of gravity*, in mechanics, that point about which all the parts of a body do, in any fituation, exactly balance each other. Hence, 1. If a body be fufpended by this point as the center of motion, it will remain at reft in any pofition indifferently. 2. If a body be fufpended in any other point, it can reft only in two pofitions, *viz.* when the faid center of gravity is exactly above or below the point of fufpenfion. 3. When the center of gravity is fupported, the whole body is kept from falling. 4. Becaufe this point has a conftant endeavour to defcend to the center of the earth, therefore, 5. When the point is at liberty to defcend, the whole body muft alfo defcend, either by fliding, rolling, or tumbling down. 6. The center of gravity in regular uniform and homogeneal bodies, as fquares, circles, &c. is the middle point in a line connecting any two oppofite points or angles. Wherefore, if fuch a line be bifected, the point of fection will be the center of gravity.

To find the center of gravity of a triangle. Let B G (plate XXXIX. fig. 1. N° 1.) bifect the bafe A C of the triangle A B C, it will alfo bifect every other line D E drawn parallel to the bafe, confequently the center of gravity of the triangle will be found fomewhere in the line B G. The area of the triangle may be confidered as confifting of an infinite number of indefinitely fmall parallelograms, D E *ba*, each of which is to be confidered as a weight, and alfo as the fluxion of the area of the triangle, and fo may be expreffed by $2y\dot{x}$, (putting B F $=x$, and F E $=y$) if this fluxionary weight be multiplied by its velocity x, we fhall have $2yx\dot{x}$ for its momentum. Now put B G $=a$ and A C $=b$, then B G (a) : A C (b) :: B F (x) : D E $=\frac{bx}{a}=2y$, therefore the fluxion of the weights $2y\dot{x}=\frac{bx\dot{x}}{a}$; and the fluxion of the momenta $2yx\dot{x}=\frac{bxx\dot{x}}{a}$, whence the fluent of the latter, *viz.* $\frac{bx^3}{3a}$ divided by the fluent of the former, *viz.* $\frac{bx^2}{2a}$ will give $\frac{2}{3}x$ for the diftance of the point from B in the line B F, which has a velocity equal to the mean velocity of all the particles in the triangle D B E, and is therefore its center of gravity. Confequently the center of gravity of any triangle A B C, is diftant from the vertex B $\frac{2}{3}$ B G a right line drawn from the angle B bifecting the bafe A C. And fince the fection of a fuperficial or hollow cone is a triangle, and circles have the fame ratio as their diameters, it follows that the circle whofe plane paffes through the center of gravity of the cone, is $\frac{2}{3}$ of the length of the fide diftant from the vertex of the faid cone.

To find the center of gravity of a folid cone. As the cone confifts of an infinite number of circular areas, which may be confidered as fo many weights, the center of gravity may be found as before, by putting B E $=x$ (*ibid.* N° 2.) B G $=a$, the circular area D F E $=y$, and A G C $=b$; and from the nature of the cone, a^2 : x^2 :: b : $y=\frac{bx^2}{a^2}$: but $\dot{x}y=\frac{bx^2\dot{x}}{a^2}=$ fluxion of the weights; and $yx\dot{x}=\frac{bx^3\dot{x}}{a^2}=$ fluxion of the momenta, whence the fluent of the latter, *viz.* $\frac{bx^4}{4a^2}$ divided by the fluent of the former $\frac{bx^3}{3a^2}$ will give $\frac{3}{4}x$ for the center of gravity of the part D B E F, confequently the center of gravity of the cone A B C G is diftant from the vertex B $\frac{3}{4}$ of the fide B G, in a circle parallel to the bafe.

To find the center of gravity in a parallelogram and parallelopiped, draw the diagonal

diagonal A D and E G, *(ibid.* N° 3.) likewiſe C B and H F; ſince each diagonal A D and C B divides the parallelogram A C D B into two equal parts, each paſſes through the center of gravity, conſequently the point of interſection I muſt be the center of gravity of the parallelogram. In like manner, ſince both the plane C B F H and A D G E divide the parallelopiped into two equal parts, each paſſes through its center of gravity, ſo that the common interſection I K is the diameter of gravity, the middle whereof is the center. After the ſame manner may the center of gravity be found in priſms and cylinders, it being the middle point of the right line that joins the center of gravity of their oppoſite baſes.

The center of gravity of a parabola, is found as in the triangle and cone. Thus, let B F in the parabola A B C *(ibid.* N° 4.) be equal to x, D E $=y$, then will $y\dot{x}$ be the fluxionary weight, and $yx\dot{x}$ the fluxion of the momenta; but from the nature of the curve, we have $y=x^{\frac{1}{2}}$; whence $y\dot{x}=x^{\frac{1}{2}}\dot{x}$, and $yx\dot{x}=x^{\frac{1}{2}}\dot{x}x$, whoſe fluent $\frac{2}{5}x^{\frac{5}{2}}$ divided by $\frac{2}{3}x^{\frac{3}{2}}$ the fluent of $x^{\frac{1}{2}}\dot{x}$ will give $\frac{3}{5}x$ $=\frac{3}{5}$B F for the diſtance of the center of gravity from the vertex B in the part D B E; and ſo $\frac{2}{5}$ of B G is that center in the axis of the whole parabola A B C from the vertex B.

The center of gravity in the human body, is ſituated in that part which is called the pelvis, or in the middle between the hips. For the center of gravity of ſegments, parabolic, conoids, ſpheroids, *&c.* we refer to Wolfius.

Common CENTER *of gravity of two or more bodies*, a point ſo ſituated in a right line joining the centers of theſe bodies, that if this point be ſuſpended, the bodies will equiponderate, and reſt in any ſituation. In two equal bodies, it is at equal diſtances from both: when the bodies are unequal, it is nearer to the greater body, in proportion as it is greater than the other; or the diſtances from the centers are inverſely as the bodies. Let A *(ibid.* N° 5.) be greater than B, join A B, upon which take the point C, ſo that C A : C B :: B : A, or that A×CA=B×CB, then is C the center of gravity of the bodies A and B. If the center of gravity of three bodies be required, firſt find C the center of gravity of A and B; and ſuppoſing a body to be placed there equal to the ſum of A and B, find G the center of gravity of it and D; then ſhall G be the center of gravity of the three bodies A, B and D. In like manner the center of gravity of any number of bodies is determined.

The ſum of the products that ariſe by multiplying the bodies by their reſpective diſtances, from a right line or plane given in poſition, is equal to the product of the ſum of the bodies multiplied by the diſtance of the center of gravity from the ſame right line or plane, when all the bodies are on the ſame ſide of it: but when ſome of them are on the oppoſite ſide, their products, when multiplied by their reſpective diſtances from it, are to be conſidered as negative, or to be ſubducted. Let I L *(ibid.* N° 7.) be the right line given in poſition, C the center of gravity of the bodies A and B; A *a*, B *b*, C *c*, perpendiculars to IL in the points *a*, *b*, and *c*; then if the bodies A and B be on the ſame ſide of I L, we ſhall find $A\times Aa+B\times Bb=\overline{A+B}\times Cc$. For drawing thro' C, the right line M N parallel to I L meeting A *a* in M, and B *b* in N, we have A : B :: B C : A C by the property of the center of gravity, and conſequently A : B :: B N : A M, or $A\times AM=B\times BN$; but $A\times Aa+B\times Bb=A\times Cc+A\times AM+B\times Cc-B\times BN=A\times Cc+B\times Cc=\overline{A+B}\times Cc$. When B is on the other ſide of the right line I L *(ib.* N° 6.) and C on the ſame ſide with A, then $A\times Aa-B\times Bb=A\times Cc+A\times AM-B\times BN+B\times Cc=\overline{A+B}\times Cc$: and when the ſum of the products of the bodies on one ſide of I L multiplied by their diſtances from it, is equal to the ſum of the products of the bodies multiplied by their diſtances on the other ſide of I L, then C *c* vaniſhes, or the common center of gravity of all the bodies falls on the right line I L.

Hence it is demonſtrable, that when any number of bodies move in right lines with uniform motions, their common center of gravity moves likewiſe in a right line with an uniform motion; and that the ſum of their motions eſtimated in any given direction, is preciſely the ſame as if all the bodies in one maſs were carried on with the direction and motion of their common center of gravity.

CENTER *of an hyperbola*, a point in the middle of the tranſverſe axis.

CENTER *of magnitude*, of any homogeneal body, the ſame with the center of gravity. See the article CENTER *of gravity*.

CENTER *of motion*, that point which remains at reſt, while all the other parts of a body move about it. And this is the ſame in uniform bodies of the ſame matter throughout, as the center of gravity.

CENTER *of oſcillation*, that point in a pendulum in which, if the weight of the ſeveral parts thereof were collected, each vibration would be performed in the ſame time as when thoſe weights are ſeparate. This is the point from whence the length of a pendulum is meaſured, which in our latitude, in a pendulum that ſwings ſeconds, is 39 inches and $\frac{2}{10}$.

The center of ſuſpenſion is the point on which the pendulum hangs.

A general rule for finding the CENTER *of oſcillation*. If ſeveral bodies be fixed to an inflexible rod ſuſpended upon a point, and each body be multiplied by the ſquare of its diſtance from the point of ſuſpenſion, and then each body be multiplied by its diſtance from the ſame point; and all the former products when added together, be divided by all the latter products added together, the quotient which ſhall ariſe from thence, will be the diſtance of the center of oſcillation of theſe bodies from the ſaid point.

Thus, if C F (*ibid.* N° 8.) be a rod on which are fixed the bodies A, B, D, *&c.* at the ſeveral points A, B, D, *&c.* and if the body A be multiplied by the ſquare of the diſtance C A, and B be multiplied by the ſquare of the diſtance C B, and ſo on for the reſt: and then if the body A be multiplied by the diſtance C A, and B be multiplied by the diſtance C B, and ſo on for the reſt; and if the ſum of the products ariſing in the former caſe be divided by the ſum of thoſe which ariſe in the latter, the quotient will give C Q, the diſtance of the center of oſcillation of the bodies A, B, D, *&c.* from the point C. For the demonſtration of this rule, conſult the appendix to part I. of Mr. Rowning's ſyſtem of natural philoſophy.

To determine the center of oſcillation of the rectangle R I H S (*ibid.* N° 9.) ſuſpended in the middle point A of the ſide R I, and oſcillating about its axis R I. Let $RI = SH = a$, $AP = x$, then will $Pp = dx$ and the element or the area, conſequently one weight $= a\,dx$ and its momentum $a\,x\,dx$. Wherefore $\int a x^2 dx : \int a\,x\,dx = \frac{1}{3} a x^3 : \frac{1}{2} a x^2 = \frac{2}{3} x$, indefinitely expreſſes the diſtance of the center of oſcillation from the axis of oſcillation in the ſegment R C D I. If then for x be ſubſtituted the altitude of the whole rectangle $RS = b$, the diſtance of the center of oſcillation from the axis will be found $= \frac{2}{3} b$.

The center of oſcillation in an equicrural triangle S A H (*ibid.*) oſcillating about its axis R I, parallel to the baſe S H, is found at a diſtance from the vertex A equal to $\frac{3}{4}$ A E the altitude of the triangle.

The center of oſcillation in an equicrural triangle S A H (*ibid.*) oſcillating about its baſe S H, is found at a diſtance from the vertex $A = \frac{1}{2} AE$.

For the centers of oſcillation of parabolas and curves of the like kind oſcillating about their axis parallel to their baſes, they are found as follows. In the apollonian parabola, the diſtance of the center of oſcillation from the axis $= \frac{5}{7}$ A E. (*ibid.*)

In the cubical paraboloid, the diſtance of the center from the axis $= \frac{7}{10}$ AE.

In a biquadratic paraboloid, the diſtance of the center from the axis $= \frac{9}{13}$ A E.

See more concerning the centers of oſcillation of triangles, cylinders, cones, *&c.* ſuſpended in different manners, and agitated laterally, in Wolfius's *elementa mechanicæ*, cap. x. ſect. 449, *&c.*.

CENTER *of percuſſion*, in a moving body, that point wherein the percutient force is greateſt, or that point with which if the body ſtrikes againſt any obſtacle, no ſhock ſhall be felt at the point of ſuſpenſion. See the article PERCUSSION.

The center of percuſſion, when the percutient body revolves round a fixed point, is the ſame with the center of oſcillation, and conſequently may be determined by the ſame rule. See the article CENTER *of oſcillation*.

Hence a ſtick of a cylindrical figure, ſuppoſing the center of motion at the hand, will ſtrike the greateſt blow at a diſtance about two thirds of its length from the hand.

The center of percuſſion is the ſame with the center of gravity, if all the parts of the percutient body be carried with a parallel motion, or with the ſame celerity. For the momenta are the facta of the weights into the celerities; wherefore to multiply equiponderating bodies by the ſame velocity, is the ſame thing as to take equimultiples of them; but the equimultiples of equiponderating bodies; themſelves equiponderate. Therefore e-

 quivalent

quivalent momenta are difpofed about the center of gravity, and confequently, the center of gravity in this cafe, will coincide with the center of percuffion ; and what is fhewn of the one, will hold of the other.

CENTER *of converfion*, in mechanics, a term firft ufed by Mr. Parent. It may be explained thus. If a ftick be laid on ftagnant water, and drawn by a thread faftened to it, fo that the thread always makes the fame angle with the ftick, *viz.* a right angle, the ftick will be found to turn on one of its points, which will be unmovable, and this point is called the point of converfion.

This effect arifes from the refiftance of the fluid ; but the great queftion confifts in knowing in what point the center of converfion is found. This Mr. Parent has calculated with a great deal of exactnefs, and finds if the ftick drawn by one extremity be a ftraight line divided into twenty parts, the center of converfion will be nearly on the thirteenth, reckoning from the thread. If it be not a line, but a furface or folid, there will be fome change in the fituation of the center of converfion, according to the nature of the furface or the folid.

CENTER *of a parallelogram*, or *polygon*, the point in which its diagonals interfect.

CENTER *of a fphere*, a point in the middle, from which all lines drawn to the furface are equal.

Hermes Trifmegiftus defines God an intellectual fphere, whofe center is every where, and circumference no where.

CENTERING *of an optic glafs*, the grinding it fo as that the thickeft part is exactly in the middle.

One of the greateft difficulties in grinding large optic glaffes is, that in figures fo little convex, the leaft difference will put the center two or three inches out of the middle. Dr. Hook notes, that tho' it were better the thickeft part of a long object glafs were exactly in the middle, yet it may be a very good one when it is an inch or two out of it.

Mr. Caffini the younger has a difcourfe exprefs on the neceffity of *well centering the object glafs* of a large telefcope, that is, of grinding them fo, that the center may fall exactly in the axis of the telefcope.

CENTESIMATION, a milder kind of military punifhment, in cafes of defertion, mutiny, and the like, when only every hundredth man is executed.

CENTIPES, in zoology, the name of two fpecies of fcolopendra, one called the white centipes, or the whitifh fcolopendra, with a depreffed back ; the other, the brown centipes, or the brown thin fcolopendra. See the article SCOLOPENDRA.

CENTNER, among metallurgifts and affayers, denotes a weight divifible firft into an hundred, and afterwards into other leffer parts. However, it is to be obferved, that the center of metallurgifts, is the fame with the common hundred weight ; whereas that of affayers is no more than one dram, to which the other parts are proportional, and neverthelefs pafs by the names 100 lb. 64 lb. 32 lb. &c.

CENTO, in poetry, a work wholly compofed of verfes or paffages, promifcuoufly taken from other authors, only difpofed in a new form and order.

Proba Falconia has written his life of Jefus Chrift in centos, taken from Virgil: Alexr. Rofs has done the like in his chriftiados, and Stephen de Pleure the fame.

Aufonius has laid down rules to be obferved in compofing centos ; the piece, fays he, may be taken from the fame poet, or from feveral, and the verfes may be either taken entire, or divided into two : one half to be connected with another half taken elfewhere ; but two verfes are never to be ufed running, nor much lefs than half a verfe taken.

CENTONARII, in antiquity, certain officers of the roman army, who provided tents and other ftuff, called centones, made ufe of to quench the fire which the enemy's engines threw into the camp.

Thefe centonarii kept with the carpenters and other officers of the artillery.

CENTRAL, fomething relating to a center. See the article CENTER.

CENTRAL FORCES, the powers which caufe a moving body to tend towards, or recede from, the center of motion.

If a body A (plate XXXIX. fig. 1. N° 1.) be fufpended at the end of a ftring A C, moveable about a point C, as a center, and in that pofition it receives an impulfe in an horizontal direction, it will be thereby compelled to defcribe a circle about the central point. While the circular motion continues, the body will certainly endeavour to recede from the center, which is called its centrifugal force, and arifes from the horizontal impetus. With this force it acts upon the fixed center-pin, and that, by its immobility, re-acts with an equal force on the body, by means of the ftring, and

and folicits it towards the center of motion: whence it is called the centripetal force; and when we fpeak of either or both indefinitely, they are called the central forces of the revolving body.

The theory of this fpecies of motion, is comprifed in the following propofitions.

1. When two or more bodies revolve at equal diftances from the center of the circle they defcribe, but with unequal velocities, the central forces, neceffary to retain them, will be to each other as the fquares of their velocities. That is, if one revolves twice as faft as the other, it will require four times the retaining force the other does; if with three times the velocity, it will require nine times the force to retain it in its orb, &c.

2. When two or more bodies move with equal velocities, but at unequal diftances from the center they revolve about, their central forces muft be inverfely as their diftances. That is, by how many times greater the diftance a body revolves at, is from the center, fo many times lefs force will retain it.

3. When two or more bodies perform their revolutions in equal times, but at different diftances from the center they revolve about, the forces requifite to retain them in their orbs, will be to each other as the diftance they revolve at from the center: for inftance, if one revolves at twice the diftance the other does, it will require a double force to retain it, &c.

4. When two or more bodies revolving at different diftances from the center, are retained by equal centripetal forces, their velocities will be fuch, that their periodical times will be to each other, as the fquare roots of their diftances. That is, if one revolves at four times the diftance another does, it will perform a revolution in twice the time that the other does; if at nine times the diftance, it will revolve in thrice the time.

5. And, in general, whatever be the diftances, the velocities, or the periodical times of the revolving bodies, the retaining forces will be to each other in a ratio compounded of their diftances directly, and the fquares of their periodical times inverfely. Thus, for inftance, if one revolves at twice the diftance another does, and is three times as long in moving round, it will require two ninths, that is, two ninths of the retaining power the other does.

6. If feveral bodies revolve at different diftances from one common center, and the retaining power lodged in that center decreafe as the fquares of the diftances increafe, the fquares of the periodical times of thefe bodies will be to each other as the cubes of their diftances from the common center. That is, if there be two bodies whofe diftances, when cubed, are double or treble, &c. of each other, then the periodical times will be fuch, as that when fquared only, they fhall alfo be double or treble, &c.

7. If a body be turned out of its rectilineal courfe, by virtue of a central force, which decreafes as you go from the feat thereof, as the fquares of the diftances increafe; that is, which is inverfely as the fquare of the diftance, the figure that body fhall defcribe, if not a circle, will be a parabola, an ellipfis, or an hyperbola; and one of the foci of the figure, will be at the feat of the retaining power. That is, if there be not that exact adjuftment between the projectile force of the body and the central power neceffary to caufe it to defcribe a circle, it will then defcribe one of thofe other figures, one of whofe foci will be where the feat of the retaining power is.

8. If the force of the central power decreafes as the fquare of the diftance increafes, and feveral bodies revolving about the fame defcribe orbits that are elliptical, the fquares of the periodical times of thefe bodies will be to each other, as the cubes of their middle diftances from the feat of that power.

9. If the retaining power decreafe fomething fafter as you go from the feat thereof, (or which is the fame thing, increafe fomething fafter as you come towards it) than in the proportion mentioned in the laft propofition, and the orbit the revolving body defcribes be not a circle, the axis of that figure will turn the fame way the body revolves: but if the faid power decreafe (or increafe) fomewhat flower than in that proportion, the axis of the figure will turn the contrary way. Thus, if a revolving body, as D (plate XXXIX. fig. 2. N° 2.) paffing from A towards B defcribe the figure ADB, whofe Axis AB, at firft points as in the figure, and the power whereby it is retained decreafe fafter than the fquare of the diftance increafes, after a number of revolutions, the axis of the figure will point towards P, and after that towards R, &c. revolving round the fame way with the body; and if the retaining power decreafe

creafe flower than in that proportion, the axis will turn the other way.

Thus it is the heavenly bodies, *viz.* the planets, both primary and fecondary, and alfo the comets, perform their refpective revolutions. The figures in which the primary planets and the comets revolve, are ellipfes, one of whofe foci is at the fun: the areas they defcribe, by lines drawn to the center of the fun, are in each proportional to the times in which they are defcribed. The fquares of their periodical times, are as the cubes of their middle diftances from the fun. The fecondary planets defcribe alfo circles or ellipfes, one of whofe foci is in the center of their primary ones, *&c.*

CENTRAL RULE, a rule difcovered by Mr. Thomas Baker, whereby to find the center of a circle defigned to cut the parabola in as many points, as an equation to be conftructed hath real roots. Its principal ufe is in the conftruction of equations, and he has applied it with good fuccefs as far as biquadratics.

The central rule is chiefly founded on this property of the parabola, that if a line be infcribed in that curve perpendicular to any diameter, a rectangle formed of the fegments of the infcript, is equal to the rectangle of the intercepted diameter and parameter of the axis.

The central rule has the advantage over Cartes and De Latere's methods of conftructing equations, in that both thefe are fubject to the trouble of preparing the equation, by taking away the fecond term.

CENTRIFUGAL FORCE, that force by which all bodies that move round any other body in a curve, endeavour to fly off from the axis of their motion in a tangent to the periphery of the curve, and that in every point of it.

Mr. Huygens demonftrates, that this force is always proportional to the circumference of the curve in which the revolving body is carried round. The centrifugal force of any body is to the centripetal, as the fquare of the arch which a body defcribes in a given time, divided by the diameter, to the fpace thro' which a heavy body moves in falling from a place where it was at reft in the fame time.

If any body fwim in a medium heavier than itfelf, the centrifugal force is the difference between the fpecific weight of the medium, and the floating body.

All moving bodies endeavour after a rectilinear motion, becaufe it is the eafieft, fhorteft, and moft fimple: whenever therefore they move in any curve, there muft be fomething that draws them from their rectilinear motion, and detains them in their orbits; and were that force to ceafe, the moving body would go ftraight off in a tangent to the curve in that very point, and fo would get ftill further and further from the focus, or center of its curvilinear motion.

It may be, that in a curve where the force of gravity in the defcribing body is continually variable, the centrifugal force may alfo continually vary in the fame manner, and fo that one may alfo fupply the defect, or abate for the excefs of the other, and confequently the effect be every where equal to the abfolute gravity of the revolving body.

CENTRINA, or CENTRINE, in ichthyology, the name by which authors call a fpecies of fqualus, without any tail-fin, and its body of a trigonal fhape.

CENTRIPETAL FORCE, that force by which a body is every where impelled, or any how tends towards fome point as a center; fuch is gravity, or that force whereby bodies tend towards the center of the earth; magnetical attraction, whereby the load-ftone draws iron; and that force, whatever it be, whereby the planets are continually drawn back from right lined motions, and made to move in curves.

The greater the quantity of matter in any body is, the greater will be its centripetal force, all things elfe alike. If a body laid upon a plane, revolve at the fame time, and about the fame center with that plane, and fo defcribe a circle; and if the centripetal force, wherewith the body is drawn every moment towards the center, fhould ceafe to act, and the plane fhould continue to move with the fame velocity, the body will begin to recede from the center about which the plane moved. See CENTRAL FORCES.

CENTRO-BARYC METHOD, in mechanics, the method of determining the content of a fuperficies, or folid, by means of the center of gravity.

CENTRONIA, in zoology, the name by which Dr. Hill calls the echinus marinus, or fea-hedge-hog, or fea-egg; which he defines to be an animal living under the defence of a fhelly covering, formed of one piece, and furnifhed with a vaft number of fpines, moveable at the animal's pleafure.

These

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These animals conſtitute a diſtinct genus by themſelves, the ſpecies of which are very numerous, and ſome of them extremely elegant: 1. The centronia with variolated papillæ. 2. The common round centronia, with ſmall papillæ. 3. The ſea-apple. 4. The high-backed cordated centronia, called ſpatangus, or ſpatagoides, by authors. 5. The round flat centronia, called placenta: with a great many other ſpecies. See plate XXXIX. fig. 3. where n° 1. repreſents the variolated centronia, and n° 2, the common centronia.

CENTRUM, in geomery and mechanics, the ſame with center. See the article CENTER.

CENTRUM PHONICUM, in acouſtics, the place where the ſpeaker ſtands, in polyſyllabic and articulate echoes.

CENTRUM PHONO-CAMPTICUM, the object or place that returns the voice in an echo. See the article ECHO.

Blancanus writes, that no ſyllable can be diſtinctly and clearly returned, under the diſtance of twenty-four geometrical paces.

CENTRUM TENDINOSUM, in anatomy, a point wherein the tendons of the muſcles of the diaphragm meet.

This center is perforated towards the right ſide, for the vena cava; and the deſcending trunk of the great artery, the thoracic duct, and azygos vena paſs between its two inferior proceſſes.

CENTRY-BOX, the ſame with the guerritte, only the former is of wood, and the other of ſtone. It is a wooden cell, or lodge, to ſhelter the centinel, or centry, from the injuries of the weather.

In a fortification, they are uſually placed on the flanked angles of the baſtions, on thoſe of the ſhoulder, and ſometimes in the middle of the curtain.

CENTUMVIRI, in roman antiquity, judges appointed to decide common cauſes among the people; they were choſen three out of each tribe; and though five more than an hundred, were nevertheleſs called centumviri, from the round number centum, an hundred.

CENTUNCULUS, in botany, a genus of the tetrandria-monogynia claſs of plants; the flower of which is monopetalous, the tube is globoſe, and the limb divided into four oval ſegments: the fruit is an unilocular capſule, containing a great number of roundiſh ſeeds.

CENTURION, among the Romans, an officer in the infantry, who commanded a century, or an hundred men.

The centurions held the firſt rank in the firſt cohort of a legion, and two of them the place of the two firſt haſtati, or pikemen: the firſt among the principes was alſo a centurion.

The centurion primipilus was the chief of the centurions: he was not under the command of any tribune, as all the reſt were; he had four centuries under his direction, and guarded the ſtandard and the eagle of the legion.

CENTURY, in a general ſenſe, any thing divided into or conſiſting of an hundred parts.

The roman people, when they were aſſembled for the electing of magiſtrates, enacting of laws, or deliberating upon any public affair, were always divided into centuries; and voted by centuries, in order that their ſuffrages might be the more eaſily collected; whence theſe aſſemblies were called *comitia centuriata*. The roman cohorts were alſo divided into centuries. See the articles CENTURION and COHORT.

CENTURY, in chronology, the ſpace of one hundred years.

This method of computing by centuries is generally obſerved in church-hiſtory, commencing from the time of our Saviour's incarnation; in which ſenſe we ſay the firſt century, the ſecond century, &c.

CENTURIES *of Magdeburg*, a famous eccleſiaſtical hiſtory, ranged into thirteen centuries, carried down to the year 1298, compiled by ſeveral hundred proteſtants of Magdeburg, the chief of whom was Matthias Flacius Illyricus.

CENTUSSIS, in roman antiquity, a coin containing an hundred aſſes.

CENU, a town of Terra Firma, in South America, about eighty miles ſouth of Carthagena; weſt longitude 76°, and north latitude 9°.

CEPA, the ONION, in botany, a ſpecies of allium. See the article ALLIUM.

Onions are much eaten, and it would be well if they were more ſo: they attenuate tough and viſcous humours, cleanſe the ſtomach, and excite an appetite; they are a very powerful diuretic, but when eaten too largely, they have bad effects. A ſyrup of onions, made from a ſtrong decoction of them, with honey, is an excellent medicine in aſthmas of the moiſt kind, in diſorders of the breaſt, &c. A cataplaſm of roaſted onions and butter is an excellent external application for the piles, &c.

CEPHA-

CEPHALALGIA, a term uſed to denote the head-ach. See HEAD-ACH.

CEPHALANTHUS, in botany, a genus of the tetrandria-monogynia claſs of plants; the corolla conſiſts of a ſingle petal; the tube is ſlender; the limb is divided into four parts, acute, reflex, and of the length of the tube; the fruit is an oblong capſule, containing only one cell; ſeveral of theſe grow together, and form a roundiſh head; the ſeeds are numerous and oblong.

CEPHALIC, in a general meaning, ſignifies any thing belonging to the head, or its parts.

CEPHALIC MEDICINES are remedies for diſorders of the head.

Under this denomination are comprehended all thoſe medicines which have a particular relation to the brain; ſo that cephalic remedies, in general, are ſuch as promote the ſecretion and diſtribution of the ſpirits, and are commonly of a volatile, ſpirituous, and aromatic nature.

CEPHALIC VEIN, in anatomy, creeps along the arm, between the ſkin and the muſcles, and divides itſelf into two branches; the external goes down to the wriſt, where it joins the baſilica, and turns up to the back of the hand: the internal branch, together with a ſmall one of the baſilica, makes the mediana.

The antients uſed to open this vein for diſorders of the head, from which it bears this name; but a better acquaintance with the circulation of the blood informs us, that there is no foundation for ſuch a practice.

CEPHALONIA, the capital of an iſland of the ſame name, ſituated in the Mediterranean, near the coaſt of Epirus, and ſubject to the Venetians; eaſt long. 21°, and north lat. 38° 30′.

CEPHALOPHARYNGÆI, in anatomy, the firſt pair of muſcles of the upper part of the gullet, which proceed from beſide the head and neck, and are ſpread more largely upon the tunic of the gullet.

Theſe muſcles ariſe from that part where the head is joined to the firſt vertebra of the neck, from whence marching downwards, they ſpread about the pharynx, with a large plexus of fibres, and ſeem to make its membrane: this ſtreightens the throat in ſwallowing.

CEPHEUS, in aſtronomy, a conſtellation of the northern hemiſphere, whoſe ſtars, in Ptolemy's catalogue, are thirteen; in Tycho's, eleven; in Hevelius's, forty; and in Mr. Flamſtead's, thirty-five.

CEPI CORPUS, in law, a return made by the ſheriff, that, upon a capias, or other like proceſs, he has taken the defendant's body.

CEPPHUS, in ornithology, a bird of the gull-kind, not unlike the common duck, excepting its feet and beak. See plate XL. fig. 1. and the article LARUS.

CERAM, an iſland in the indian ocean, between the Molucca-iſlands on the north, and thoſe of Amboyna and Banda on the ſouth, lying between 126° and 129° eaſt longitude, and in 3° ſouth lat. It is about one hundred and fifty miles long, and ſixty broad; and here the Dutch have a fortreſs, which keeps the natives in ſubjection.

CERAMBYX, in zoology, a genus of beetles, the characters of which are theſe: the antennæ are long and ſetaceous; and the thorax is oblong, rounded, and mucronated or pointed at each extremity. Under this genus is comprehended the capricorn-beetle, and a number of other ſpecies.

CERASTIUM, in botany, a genus of the decandria-pentagynia claſs of plants, the flower of which conſiſts of five bifid petals; and its fruit is a very long unilocular pod, containing numerous roundiſh ſeeds.

CERASUS, the CHERRY-TREE, in botany, a ſpecies of prunus. See the article PRUNUS.

All the ſorts of cherries which are uſually cultivated in fruit-gardens, are propagated by budding, or grafting the ſeveral kinds into ſtocks of the black or wild red cherries, which are ſtrong ſhooters, and of a longer duration than any of the garden-kinds.

CERATE, in pharmacy, a medicine uſed externally in ſeveral diſeaſes, eſpecially thoſe of the ſkin. It is generally of four ſorts, the white cerate, the yellow cerate, the cicatrizing cerate, and the mercurial cerate.

To prepare the white cerate: take of olive-oil four ounces in meaſure, of white wax four ounces in weight, of ſpermaceti half an ounce in weight: melt all together, and ſtir them well, till the cerate is quite cold.

For the yellow: take of yellow baſilicon half a pound, of yellow wax an ounce: melt them together.

To prepare the cicatrizing cerate; take of olive-oil a pound; yellow wax, prepared calamy, of each half a pound; melt the wax with the oil, and as ſoon as the mixture

ture begins to congeal, ſprinkle in the calamy, and ſtir all well, till the cerate is quite cold.

To prepare the mercurial cerate; take yellow wax, tried hog's lard, of each half a pound; of quick-ſilver three ounces; of the ſimple balſam of ſulphur, a dram: melt the wax with the lard, then add them gradually to the quick-ſilver, firſt well divided by the balſam of ſulphur.

CERATION, the name given by the antients to the ſmall ſeeds of the ceratonia, or ſiliqua, of botaniſts, uſed by the arabian phyſicians, as a weight to adjuſt the doſes of medicines; as the grain weight with us took its riſe from a grain of barley.

This was alſo the name of a ſilver coin, equal to one third of an obolus.

CERATION, *ceratio*, in chemiſtry. See the article WAXING.

CERATOGLOSSUM, in anatomy, the name of a pair of muſcles, ſerving to draw the tongue directly into the mouth; but if only one of them acts, it draws the tongue to one ſide of the mouth.

CERATONIA, CAROB TREE, in botany, a genus of the dioecia pentandria claſs of plants: there is no corolla of either male or female: the calyx of the male flower is divided into five parts; the calyx of the female flower has five tubercles; the fruit is a legumen, or pod, divided by ſeveral ſepta; the ſeed is ſolitary, roundiſh, compreſſed, hard, and ſhining.

CERATOPHYLLUM, in botany, a genus of the monoecia-polyandria claſs of plants: there is no corolla; the calyx of the male flower is divided into ſeveral ſegments, as is that of the female flower: there is no pericarpium; the ſeed is an ovato-acuminated nut, containing only one cell.

CERBERA, in botany, a genus of the pentandria-monogynia claſs of plants, the corolla of which conſiſts of a ſingle funnel-ſhaped petal; the tube is elevated, the limb large, and divided into five ſegments: the fruit is a large, round, fleſhy drupe, marked with a longitudinal furrow on the ſide, and containing two cells, in each of which is a ſingle ſeed, being a nut of an oval figure.

CERCELE, in heraldry. A croſs cercele is a croſs which opening at the ends, turns round both ways, like a ram's horn. See the article CROSS.

CERCIS, in botany, a genus of the decandria-monogynia claſs of plants: the corolla conſiſts of five petals, inſerted into the calyx, and greatly reſembles a papilionaceous flower: the fruit is an oblong, obliquely acuminated legumen, having only one cell; the ſeeds are few, roundiſh, and annexed to the upper ſuture.

CERCOPITHECUS, in zoology, an appellation given to all the long-tailed monkeys; from κερκος, a tail, and πιθηκος, monkey. See SIMIA and MONKEY.

CERDONIANS, in church hiſtory, antient heretics, who maintained moſt of the errors of Simon Magus, Saturnel, and other gnoſtics.

They aſſerted two principles, the one good, and the other evil: this laſt, according to them, was creator of the world, and the God that appeared under the old law: the firſt, whom they called unknown, was the father of Jeſus Chriſt, who, they taught, was only incarnate in appearance, and was not born of a virgin, nor ſuffered death, but in appearance.

CEREALIA, in antiquity, feaſts of Ceres, inſtituted by Triptolemus of Eleuſis, in Attica.

Theſe feaſts were celebrated with ſuch religious purity, that any one's lying with his wife was accounted pollution. It was not Ceres alone that was honoured here, but alſo Bacchus: the victims offered were hogs, by reaſon of the waſte they made in the product of the earth.

The cerealia paſſed from the Greeks to the Romans, who held them for eight days ſucceſſively, commencing on the 12th of April. It was the women alone who were concerned in the celebrations, all dreſſed in white; the men were only ſpectators: they eat nothing till ſun ſet, in memory of Ceres, who, in her ſearch after her daughter, took no repaſt but in the evening; there were exhibited combats on horſeback, though theſe were afterwards changed into combats of gladiators.

CEREBELLUM, in anatomy, the hinder part of the brain. See the article BRAIN.

The cerebellum is ſituated under the poſterior lobes of the brain, and the hinder proceſſes of the dura mater, in the lower part of the cavity of the ſkull; its figure approaches to a globular one; its ſuperficies is leſs anfractuous or gyrated than that of the brain; but it is furrowed; the furrows are deepeſt and largeſt in the middle, and from thence they gradually grow ſmaller every way, in form of ſo many ſegments of circles, till by degrees they

they terminate in what is called the vermiform process.

The substance of the cerebellum, if cut into the right and left parts, appears much the same with that of the brain; but the cortical part is here much more in quantity than the medullary, which, in a very elegant manner, resembles a kind of shrubs, or little trees, the trunks of which form what are called the peduncles of the cerebellum. Though the brain has its several cavities, the cerebellum has none. The lobules of the cerebellum adhere in clusters to the arbusculi medullares: they are surrounded by the pia mater, and compose the far greater part of the cerebellum.

The peduncles of the cerebellum consist of the medullary processes; the first ascends from the cerebellum towards the testes, and forms what is called the valvula magna of the brain; the second forms the annular prominence of Willis; and the third descends to the spinal narrow.

CEREBRUM, in anatomy, denotes the brain. See the article BRAIN.

CEREBRUM JOVIS, in ichthyology, a name given by the poet Ennius to a species of labrus, called by the generality of writers scarus.

CEREMONIAL, in a general sense, something belonging to, or partaking of the nature of ceremonies; thus we say, the ceremonial law, the ceremonial of princes, *&c.*

The ceremonial law is peculiarly used for the law of Moses, in contradistinction to the moral law; and though wholly taken up about the externals of religion, as rites, ceremonies, sacred utensils, *&c.* yet so blindly have the superstitious Jews been devoted to it at all times, as to prefer the observance of it to that of the moral law itself; whereas the christian religion teaches us that the chief of these ceremonies, the sabbath, was made for man's use, not man for the sabbath.

CEREMONY, *ceremonia*, an assemblage of several actions, forms, and circumstances, serving to render a thing more magnificent and solemn; particularly used to denote the external rites of religious worship, the formalities of introducing ambassadors to audiences, *&c.* Judaism has ever been a source of ceremonies; the Jews even now look upon them as a peculiar blessing from God to their nation, and a prerogative of their religion above all others in the world; they admit, however, that it is not absolutely necessary to the attainment of eternal life to observe them all; it being impracticable for them, whilst without a temple, and without sacrifices, to keep a great many of them. Paganism has not been behind hand with judaism in point of ceremony; so that ceremony may in some measure be stiled the essence of both these religions. It is surprising that christianity, whose principles are the most plain and simple, should load itself with so cumbersome a train, that those very people who are obliged to support it, cannot acquit themselves without infinite fatigue and trouble.

Master of the CEREMONIES, an officer instituted by king James I. for the more honourable reception of ambassadors and strangers of quality; he wears about his neck a chain of gold, with a medal under the crown of Great Britain, having on one side an emblem of peace, with this motto, BEATI PACIFICI; and on the other, an emblem of war, with DIEU ET MON DROIT; his salary is three hundred pounds *per annum*.

Assistant master of the CEREMONIES is to execute the employment in all points, whensoever the master of the ceremonies is absent. His salary is one hundred and forty-one pounds, thirteen shillings, and four pence *per annum*.

Marshal of the CEREMONIES is their officer, being subordinate to them both. His salary is one hundred pounds *per annum*.

Masters of the CEREMONIES *to the pope*. Of these there are six, whereof two are called assistants, and the other four supernumeraries; the two assistants receive of every new cardinal two hundred and twenty-four crowns of gold, and of the heirs of those who die, an hundred crowns; besides this, their employments bring them in seven hundred crowns. The four supernumeraries receive forty-eight crowns of gold a-piece from every new-created cardinal, and four hundred crowns from the apostolical college. They have an equal authority to regulate all pontifical functions, acquaint the cardinals with their duty, and issue orders to all persons belonging to the court.

CERIGO, or CYTHEREA, in geography, an island of the Archipelago, on the eastern coast of the Morea, and fifty miles north of the island of Candia.

It is a mountainous country, between forty and fifty miles in circumference, and situated in east longitude 23° 40', and north latitude 36°.

CERINTHE, HONEY-WORT, in botany, a genus of the pentandria-monogynia claſs of plants, the flower of which conſiſts of a ſingle petal; the tube is ſhort and thick; the limb is thicker than the tube, and ſomewhat bellied; it is divided into five ſegments, and the mouth is open and pervious; the fruit conſiſts of two hard oſſeous bodies, of an oval figure, gibbous on the outſide, plane within, acute, emarginated, and containing two cells; the ſeeds are ſingle, roundiſh, and accuminated.

CERINTHIANS, in church-hiſtory, chriſtian heretics, followers of Cerinthus, who lived and publiſhed his hereſy in the time of the apoſtles themſelves; they did not allow that God was the author of the creatures, but ſaid, that the world was created by an inferior power; they attributed to this creator an only ſon, but born in time, and different from the world; they admitted ſeveral angels and inferior powers, they maintained that the law and the prophets came not from God, but from the angels; and that the God of the Jews was only an angel; they diſtinguiſhed between Jeſus and Chriſt, and ſaid, that Jeſus was a mere man, born, like other men, of Joſeph and Mary; but that he excelled all other men in prudence and wiſdom; that Jeſus being baptiſed, the Chriſt of the ſupreme God, that is, the Holy Ghoſt, deſcended upon him; and that by the aſſiſtance of this Chriſt, Jeſus performed his miracles. It was partly to refute this ſect that St. John wrote his goſpel.

CEROMA, κηρωμα, an ointment made up of oil and wax, with which the antient wreſtlers rubbed themſelves, not only to make their limbs more ſleek, and leſs capable to be laid hold on, but alſo more pliable and fit for exerciſe.

CEROPEGIA, in botany, a genus of the pentandria-monogynia claſs of plants, whoſe flower conſiſts of a ſingle petal; the tube is cylindraceous, oblong, and terminating with a long globoſe baſe; the limb is ſmall, and divided into five ſegments; the fruit is two cylindraceous accuminated floſcules, containing one cell, and divided by two valves; the ſeeds are numerous, imbricated, and oblong.

CERTAINTY, or CERTITUDE. See the the article CERTITUDE.

CERTHIA, the CREEPER, in ornithology, a ſpecies of Iſpida, with a yellowiſh brown back, variegated with white, and a white breaſt. See the article ISPIDA. This is a very ſingular little bird, brought into the genus of the Iſpida by the ſtructure of its feet, being not very unlike the common Kingfiſher in ſize, form, and every other obvious particular. It is an extremely ſmall bird, being hardly bigger than a wren.

CERTIFICANDO DE RECOGNITIONE STAPULÆ, a writ iſſued to the mayor of the ſtaple, commanding him to certify to the lord chancellor a ſtatute-ſtaple taken before him, where the party refuſes to bring it.

CERTIFICATE, in law, a writing made in any court, to give notice to another court of any thing done therein. The clerks of the crown, aſſize, and the peace, are to make certificates into the king's bench of the tenor of all indictments, convictions, outlawries, &c.

CERTIFICATION *of aſſize of novel diſſeiſin*, a writ granted for the re-examining paſſed-by aſſiſes before juſtices. This writ is uſed where a perſon appears by his bailiff to an aſſiſe, brought by another, and has loſt the day.

CERTIORARI, a writ which iſſues out of the chancery, directed to an inferior court, to call up the records of a cauſe there depending, in order that juſtice may be done. And this writ is obtained upon complaint, that the party who ſeeks it has received hard uſage, or is not like to have an impartial trial in the inferior court. A certiorari is made returnable either in the king's bench, common pleas, or in chancery.

It is not only iſſued out of the court of chancery, but likewiſe out of the king's bench, in which laſt mentioned court it lies where the king would be certified for a record. Indictments from inferior courts, and proceedings of the quarter ſeſſions of the peace may alſo be removed into the king's bench by a certiorari; and here the very record muſt be returned, and not a tranſcript of it; though uſually in chancery, if a certiorari be returnable there, it removes only a tenor of the record.

CERTITUDE, conſidered in the things or ideas which are the objects of our underſtanding, is a neceſſary agreement, or diſagreement of one part of our knowledge with another: as applied to the mind, it is the perception of ſuch agreement or diſagreement; or ſuch a firm well-grounded aſſent, as excludes not only all manner of doubt, but all conceivable poſſibility of a miſtake.

There are three sorts of certitude, or assurance, according to the different natures and circumstances of things.

1. A physical or natural certitude, which depends upon the evidence of sense; as that I see such or such a colour, or hear such or such a sound: no body questions the truth of this, where the organs, the medium, and the object are rightly disposed. 2. Mathematical certitude is that arising from mathematical evidence; such is, that the three angles of a triangle are equal to two right ones. 3. Moral certitude is that founded on moral evidence, and is frequently equivalent to a mathematical one, as that there was formerly such an emperor as Julius Cæsar, and that he wrote the Commentaries which pass under his name; because the historians of these times have recorded it, and no man has ever disproved it since: this affords a moral certitude, in common sense so great, that one would be thought a fool or a madman for denying it.

CERT-MONEY, a fine paid yearly by the residents of several manors, to the lord thereof, and sometimes to the hundred, *pro certo lete*, that is, for the certain keeping of the leet.

CERVIA, in geography, a city and port-town of Romania, in Italy, situated on the gulph of Venice, about ten miles south-east of Ravenna, and subject to the pope: east long. 13°, and north lat. 44° 30′.

CERVICAL NERVES, in anatomy, are eight pair of nerves, so called as having their origin in the neck. See NERVES.

From these eight pair there are innumerable branches distributed thro' the muscles of the head, the neck, the scapula, and the humerus: from the third pair, in particular, there is a branch which runs up to the ear: from the third, fourth, and fifth pair are formed the nerves of the diaphragm, which passing through the neck and breast, descend into the diaphragm: the sixth, seventh, and eighth of these, after they have been joined by various anastomoses, form the six robust nerves of the arm. To this division is the spinal accessory nerve of Willis to be referred, as a sort of ninth pair of nerves of the neck; this arises from the spinal marrow, about the origin of the third or fourth pair, and passes through the great foramen in the os occipitis up into the cranium.

CERVICAL VESSELS, in anatomy, denote the arteries, veins, &c. which pass thro' the vertebræ and muscles of the neck, up to the skull.

CERVICALES DESCENDENTES, a pair of muscles, antagonists to the sacro-lumbares, coming from the third, fourth, fifth, and six vertebræ of the neck.

CERVIX, in anatomy, denotes properly the hinder part of the neck, as contradistinguished from the fore-part, called *jugulum*, or the throat. See NECK.

CERVIX *of the uterus*, or the neck of the uterus, that oblong canal or passage between the internal and external orifices of the womb, which receives and incloses the penis, like a sheath, whence it is also called vagina. See the articles UTERUS and VAGINA.

In maids it is very narrow, except in the time of the menses, being scarce wide enough to admit a goose-quill: its inner extremity is called the osculum internum, or the internal mouth of the womb; it opens into the vagina in form of the glans penis in men: this part is also very small in virgins, but in women who have had children, or who are big with child, it is larger; and in the last it is always closed up with a glutinous humour. In the time of delivery, it, in a wonderful manner, expands itself, so as to give passage to the child. See DELIVERY.

CERUMEN, EAR-WAX, or that natural excrement collected in the meatus auditorius, and discharged from the glands of those parts, through the membrane which lines them. It is fluid on its first discharge, but by its continuance it becomes thicker, more solid, viscid, of the consistence of clay, and of a bitterish taste.

CERUSE, or CERUSS, WHITE-LEAD, a sort of calx of lead, made by exposing plates of that metal to the vapour of vinegar.

The best way of preparing it is the following, as recommended by Boerhaave; a glass-cucurbit is to be cut off in such a manner, as to leave it a very long mouth; an alembic-head of glass is to be fitted to this; some vinegar is to be put into the body, and a number of thin plates of lead are to be placed in the head, in such a manner, that they may stand somewhat erect; when the head is fitted on, the body is to be set in a gentle sand-heat for twelve hours; then unluting the vessels, the receiver, which had been fitted to the nose of the head, will contain a sweet and styptic liquor, nauseous and turbid, called the vinegar of lead, or the solution of lead; and the plates of lead, taken out of the head, will be found covered with a white dusty matter; this is

cerufs: and if the operation be repeated, the whole lead will be in fine reduced to this ftate of cerufs.

Cerufs is ufed externally either mixed in ointments, or by fprinkling it on old gleeting and watry ulcers, and in many difeafes of the fkin. If when it is reduced into a fine powder, it is received in with the breath in infpiration, and carried down into the lungs, it caufes terrible afthmas, that are almoft incurable, and at laft generally prove fatal; fad inftances of the very pernicious effects of this metal are too often feen among thofe perfons who work lead in any form, but particularly among the workers in white-lead.

The painters ufe it in great quantities; and, that it may be afforded cheap to them, it is generally adulterated with common whiting; the englifh and dutch cerufs are very bad in this refpect; the venetian ought always to be ufed by apothecaries.

Ceruss *of antimony*, a medicine prepared by diftilling powdered regulus of antimony with fpirit of nitre, till no more fumes arife; what remains in the retort being pulverifed and wafhed, makes the cerufs of antimony, which is efteemed a powerful diuretic.

CERVUS, the STAG or DEER-KIND, in zoology, a genus of quadrupeds of the order of the pecora, the characters of which are, that they have deciduous horns, at firft hairy, and afterwards naked and fmooth; add to this, that there is only one dog-tooth on each fide of the upper jaw, and that placed at a diftance from the other teeth.

Under this genus are comprehended the camelopardalis, the alce or elk, the rangifer or rein-deer, the capreolus, and the ftag and fallow-deer. See the articles Camelopardalis, &c.

Cervus volans, in zoology, the name of the ftag-horned beetle, a remarkably large fpecies of beetle, with its horns deeply jagged, or ramified, fomewhat like thofe of a ftag. See plate XL. fig. 2.

CESAR and Cesarian. See the articles Cæsar and Cæsarian.

CESARE, among logicians, one of the modes of the fecond figure of fyllogifms; the minor propofition of which is an univerfal affirmative, and the other two univerfal negatives: thus,

CE No immoral books ought to be read:
SA But every obfcene book is immoral:
RE Therefore no obfcene book ought to be read.

CESENA, a town of Romania, in Italy, about fifteen miles fouth of Ravenna: eaft lon. 12° 50', and north lat. 44° 20'. It is a bifhop's fee.

CESSATION, *ceffatio a divinis*, in the romifh church, is when, for any notorious injury to the church, a ftop is put to all divine offices and the adminiftration of the facraments, and chriftians are deprived of church-burial. A ceffation differs from an interdict in this, that, during the latter, divine fervice may be performed in fuch churches of any place interdicted, as are not exprefly under the interdict, and even be celebrated folemnly on certain high feftivals, the church-doors being fhut: but in a ceffation, no religious fervice can be performed folemnly; the only liberty allowed, is, in order to renew the confecrated hofts, to repeat, every week, a private mafs in the parifh-churches, the doors being fhut, obferving alfo not to ring the bell. Moreover it is lawful, during the ceffation, to adminifter baptifm, confirmation, and penance to fuch perfons as defire it, provided they are not excommunicated, or under an interdict.

CESSAVIT, in law, a writ that lies upon this general ground, that the perfon againft whom it is brought, has for two years neglected to perform the fervice, or to pay the rent he is obliged to by his tenure, and has not upon his lands fufficient goods or chattels to be diftrained.

An heir cannot maintain a writ of ceffavit for ceffure made in the time of his anceftor, unlefs it be in cafe of fee-farm rents by ftatute.

CESSION, in law, an act by which a perfon furrenders and tranfmits to another perfon, a right which belonged to himfelf.

Ceffion is more particularly ufed in the civil law for a voluntary furrender of a perfon's effects to his creditors, to avoid imprifonment. A debtor cannot be admitted to the benefit of ceffion unlefs by virtue of letters patent, confirmed in court by the creditors; and in order to obtain that favour, he muft make it appear that he has no refource left for payment, nor cannot be reproached with villany or fraud.

Ceffion implied a mark of infamy, and obliged the perfon to wear a green cap, which was intended to fignify, that the ceffionary was become poor through his own folly. The italian lawyers defcribe the ceremony of ceffion to confift in ftriking the bare breech three times againft a

ftone, called *lapis vituperii*, in the prefence of a judge. Formerly it confifted in giving up the girdles and keys in court.

There are feveral debts for which a perfon cannot be admitted to make a ceffion of his eftate; fuch are thofe occafioned by a depofit of public or private money, and in general all thofe debts accompanied with fraud or perfidy on the part of the debtor: perfons condemned in a fine, or damages, for any crime, are alfo excluded from the benefit of ceffion; as are merchants who buy in grofs to fell in retail, ftrangers, mafters for the wages of their fervants, perfons who have embezzelled the public money, *&c.* The ceffion of goods does not liberate a debtor; fo that whatever riches he may afterwards acquire, the creditors can feize for their own payment: they are obliged, however, to allow him a livelihood.

CESSION, in the ecclefiaftical law, is when an ecclefiaftical perfon is created a bifhop, or when a parfon of a parifh takes another benefice without difpenfation, or being otherwife qualified. In both thefe cafes their firft benefices become void by ceffion, without any refignation; and to thofe livings that the perfon had, who was created bifhop, the king may prefent for that time, whofoever is patron of them; and in the other cafe the patron may prefent: but by difpenfation of retainder, a bifhop may retain fome or all the preferments he was intitled to, before he was made bifhop.

CESSIONARY, a term ufed by fome for a bankrupt. See the article BANKRUPT.

CESSIONARY, *ceffionarius*, likewife denotes the perfon to whom the ceffion of goods is made, either voluntarily or judicially. See the article ASSIGNEE.

CESSOR, one that ceafes or neglects to perform a duty, and for that reafon is liable to have the writ ceffavit brought againft him. See the article CESSAVIT.

CESTRUM, in botany, a genus of the pentandria-monogynia clafs of plants, the flower of which is monopetalous, of a funnel-form, with a cylindrical and very long and flender tube, and a plane plicated limb, divided into five equal ovated fegments; the fruit is an oblong oval berry, with one cell, containing numerous roundifh feeds.

CESTUI, a french word, fignifying *he* or *him*, frequently ufed in our law-writings. Thus, *ceftui qui truft*, a perfon who has lands, *&c.* committed to him for the benefit of another: and if fuch perfon does not perform his truft, he is compellable to it in chancery.

Ceftui qui vie, one for whofe life any lands, *&c.* are granted.

Ceftui qui ufe, a perfon to whofe ufe any one is infeoffed of lands or tenements. Formerly the feoffees to ufes were deemed owners of the land, but now the poffeffion is adjudged in *ceftui qui ufe*.

CESTUS, among antient poets, a fine embroidered girdle faid to be worn by Venus, to which Homer afcribes the faculty of charming and conciliating love.

CESTUS, or CÆSTUS, among the antient athletæ. See the article CÆSTUS.

CETACEOUS, an appellation given to a clafs or order of fifhes, otherwife called *plagiuri*. See the article PLAGIURI.

The term cetaceous, though properly only applicable to the whale-kind, has nevertheless been ufed to denote any large fifh, as the fhark, fea-fox, *&c.*

CETE, the SPERMACETI WHALE, in ichthyology, a fpecies of the catodon with the fiftula in its neck.

CETERACH, SPLEEN-WORT, in pharmacy, a genus of plants called by Linnæus afplenium. See ASPLENIUM.

The leaves of this plant, gathered in September, are reckoned detergent, and extolled by Diofcorides in curing all difeafes of the fpleen.

They are alfo recommended in obftructions of the liver, the jaundice, a quartan fever, for comminuting the ftone, and promoting the menfes and urine.

CETTE, a port town of Languedoc, in France, fituated on a bay of the Mediterranean, in eaft longitude 3° 16′, and north latitude 43° 25′.

CETUS, in aftronomy, a conftellation of the fouthern hemifphere, comprehending twenty-two ftars in Ptolemy's catalogue, twenty-one in Tycho's, and in the Britannic catalogue feventy-eight.

CEVA, a town of Piedmont, in Italy, fituated on the river Tanaro, near the confines of the republic of Genoa, and about forty-two miles fouth-eaft of Turin; eaft longitude 8° 6′, and north lat. 44° 25′.

CEURAWATH, the name of a particular fect of banians, in the Eaft-Indies, who hold the metempfychofis with fo much fuperftition, that they will not kill the leaft infect: their priefts carry a piece of linen over their mouth, that no flies may enter. All the other fects of the banians have an averfion for this, and continually exhort

exhort their auditors to ſhun all diſcourſe and converſation with them. See the article BANIANS.

CEUTA, a city of the kingdom of Fez, in Africa, ſituated on the ſouth ſide of the ſtreights of Gibraltar, almoſt oppoſite to it; weſt longitude 6° 30′, and north latitude 35° 50′.

It is a ſtrong fortreſs, in poſſeſſion of the Spaniards.

CEYLON, an iſland in the indian ocean, ſituated between 78° and 82° eaſt longitude, and between 6° and 10° north latitude.

It is about two hundred and fifty miles long, and two hundred broad. The Dutch, who are in poſſeſſion of all the ſea-coaſt, monopolize all the cinnamon produced in the iſland, the king being obliged to keep in the center of the iſland, in his capital of Candy.

CHACABOUT, the name of a ſect of the religion of the Tonquinois, between China and the Indies: they believe in the metempſychoſis, and that ſuch as receive their law, without obſerving it as they ought, ſhall, for the ſpace of three thouſand years, ramble in different bodies, to fit them for the manſions of the happy.

CHACE, or CHACING. See the articles CHASE and CHASING.

CHACK, in the manege, is ſaid of a horſe, when his head is not ſteady, but he toſſes up his noſe, and ſhakes it all of a ſudden, to avoid the ſubjection of the bridle.

In order to fix and ſecure his head, you need only to put under his noſe-band a ſmall flat band of iron bended archwiſe, which anſwers to a martingale.

CHACONE, a kind of dance in the air of a ſaraband, derived from the Moors. The baſs conſiſts of four notes, which proceed in conjunct degrees, making divers concords and couplets with the ſame burden.

CHÆLÆ CANCRORUM, CRAB'S CLAWS. See the article CRAB.

CHÆROPHYLLUM, CHERVIL, in botany, a genus of the pentandria-digynia claſs of plants, the univerſal flower of which is almoſt uniform; the proper flowers conſiſt of five inflexo-cordated petals, the exterior being ſomewhat the largeſt; there is no pericarpium; the fruit is ovato-oblong, acuminated, and ſeparable into two parts, containing two oblong ſeeds, attenuated at the top, convex on one ſide and plane on the other.

Chervil-leaves are ſaid to be good for promoting urine and the menſes, but are ſeldom preſcribed.

CHÆTIA, in zoology, a genus of inſects of the order of the apteria, the characters of which are theſe: the body is long, ſlender, and rounded, reſembling a hair, or a piece of fine thread; and hence called, in engliſh, the hair-worm, or guinea-worm.

CHÆTODON, in ichthyology, a genus of fiſhes, of the acanthopterygious order, the characters of which are theſe: the branchioſtege membrane on each ſide contains four or five ſmall bones; and the teeth are oblong, contiguous, and flexible.

Under this genus are comprehended ſeveral ſpecies, diſtinguiſhed by having 46, 41, 38, 37, 36, and 33 rays in the back-fin.

CHAFE, or CHAFING *of a rope*, is ſaid of a rope that is galled or fretted: thus, the cable is chafed in the hawſe; that is, begun to be worn out there.

CHAFERY, a forge in an iron mill, where the iron is hammered out into complete bars, and brought to perfection.

CHAFE-WAX, an officer in the chancery, who fits the wax for ſealing writs, patents, and other inſtruments iſſued out from thence.

CHAFF, in huſbandry, the refuſe, or ſtraw that is ſeparated from corn, by ſcreening or winnowing it.

CHAFFERCOUNCES, printed linens, manufactured in the mogul's dominions, and imported to Europe by way of Surat.

CHAFFERS, in our old records, ſignify wares or merchandize; and hence the word chaffering is uſed for buying and ſelling.

CHAFF-FINCH, in ornithology, the engliſh name of the *fringilla*, with an iron-coloured breaſt, and black wings ſpotted with white. See FRINGILLA.

The chaff-finch is a hardy bird, living upon any kind of ſeeds.

CHAFFING *of ropes*. See CHAFE.

CHAGRE, a fort at the mouth of a river of the ſame name, a little ſouth of Porto Bello; weſt longit. 82°, and north latitude 9° 50′.

CHAIN, *catena*, a long piece of metal compoſed of ſeveral links or rings, engaged the one in the other. They are made of divers metals, ſome round, ſome flat, others ſquare; ſome ſingle, ſome double; and ſerve to ſo many uſes, that it would be tedious to give a particular

account

account of them all. A gold chain is one of the badges of the dignity of the lord mayor of London, and remains to the perſon after his being diveſted of that office, as a mark that he has paſſed the chair.

CHAIN is alſo a kind of meaſure in France, in the trade of wood for fuel; there are chains for wood by tale, for wood by the rope, for faggots, for cleft wood, and for round ſticks; there are alſo chains meaſuring the ſheaves of all ſorts of corn, particularly with regard to the payment of tythes; for meaſuring bottles of hay, and for meaſuring horſes; all theſe are divided into feet, inches, hands, &c. according to the uſe they are deſigned for.

CHAIN is alſo a ſtring of gold, ſilver, or ſteel-wire, wrought like a tiſſue, which ſerves to hang watches, tweezer-caſes, and other valuable toys upon. The invention of theſe pieces of workmanſhip was derived originally from England, whence foreigners give them the name of chains of England.

In making theſe chains, a part of the wire is folded into little links, of an oval form, the longeſt diameter about three lines, the ſhorteſt one. Theſe, after they have been exactly ſoldered, are again folded into two, and then bound together and interwoven by means of ſeveral other little threads of the ſame thickneſs, ſome of which paſſing from one end to the other, imitate the warp of a ſtuff, and the others, which paſs tranſverſely, the woof; there are at leaſt four thouſand little links in a chain of four pendants, ſo equally, and at the ſame time ſo firmly connected, that the eye takes the whole to conſiſt of one piece.

CHAINS *in a ſhip*, thoſe irons to which the ſhrouds of the maſts are made faſt to the chain-walls.

CHAIN WALLS, in a ſhip, the broad timbers which are made jetting out of her ſides, to which the ſhrouds are faſtened and ſpread out, the better to ſecure the maſts.

CHAIN-SHOT, two bullets with a chain between them. They are uſed at ſea to ſhoot down yards or maſts, and to cut the ſhrouds or rigging of a ſhip.

CHAIN-PUMP. See the article PUMP.

CHAIN, in ſurveying, a meaſure of length, made of a certain number of links of iron-wire, ſerving to take the diſtance between two or more places.

Gunter's chain of 100 ſuch links, each meaſuring $7\frac{92}{100}$ inches, and conſequently equal to 66 feet, or four poles.

When you are to meaſure any line by this chain, you need have regard to no other denomination than chains and links, which are to be ſet down with a full point between them. Thus, for inſtance, if the ſide of a cloſe is found to be 10 chains 14 links, it muſt be ſet down thus, 10.14. But if the links be under 10, a cypher muſt be prefixed; thus 10 chains 7 links, muſt be ſet down 10.07.

Then if the field be a ſquare or parallelogram, if you multiply the length expreſſed in chains and links, by the breadth expreſſed in the ſame manner, and cut off five figures from the product, thoſe towards the left hand will be acres; then multiply the ſeparated figures by four, cutting off the ſame number of figures, and you will have the roods or quarters of an acre; and laſtly multiply the remaining figures by 40, cutting off five as before, and you will have the ſquare perches.

To take an angle as B A C by the chain (plate XL. fig. 3. N° 1.) meaſure along the ſide A B any ſmall diſtance as A D, and meaſure the like diſtance along the ſide A C to E; then meaſure the diſtance D E, which will be the chord of the angle B A C or arch E D. To plot this angle, draw the line A B at pleaſure, and from the ſcale ſet off the diſtance A D. Then from the center A with the radius A D, deſcribe with your compaſſes the arch DE, and ſet off on it the diſtance DE from D to E; then from A draw AC through the point E, and you have the angle required. See the articles SCALE, CHORD, &c.

The ſame method may be uſed in ſurveying a field, by reſolving it into triangles, and meaſuring the ſides and angles. But if the field has but four angles, as in the above figure, you need only meaſure the ſides and one of the angles, as B A C; for when that is plotted, according to the foregoing directions, and the length of the ſides ſet off from A to B and C, if you take the length of the ſide C D in the compaſſes, and ſetting one foot in C deſcribe a ſmall arch; alſo with the length of the ſide B D, one foot being placed in B, croſs the former arch in D, then draw the lines C D and B D, you will have the true plot of the field required.

By the chain to find the diſtance between two objects inacceſſible in reſpect to each other. From ſome place as C, (*ibid.* N° 2.) whence the diſtance between each object A and

A and B and the ſaid place is acceſſible in a right line, meaſure the diſtance C A, and continue the line to D, making C D equal to C A: meaſure alſo B C, and produce the line to E, till C E be equal to C B. Join D E; and the triangle C D E is equal and ſimilar to the triangle ABC, the diſtance D E being meaſured, will give the inacceſſible diſtance required.

CHAIR, *cathedra*, was antiently the ſuggeſtum, or pulpit, whence the prieſt or public orator ſpoke to the people. See the article CATHREDA.

It is ſtill applied to the place whence profeſſors or regents in the univerſities, deliver their lectures: thus we ſay, the profeſſor's chair. It is alſo applied to the chief magiſtrate of a city, or rather to the ſeat appropriated to his office: thus we ſay, next the chair.

Curule-CHAIR, an ivory ſeat placed on a car, wherein were ſeated the chief magiſtrates of Rome, and thoſe to whom the honour of a triumph was granted.

CHAIR, among the roman-catholics, certain feaſts held antiently in commemoration of the tranſlation of the ſee or ſeat of the vicarage of Chriſt, by St. Peter.

CHAIR-MAN, the preſident or ſpeaker of an aſſembly. See PRESIDENT.

CHAISE, a ſort of light, open chariot, or calaſh. See CHARIOT.

CHALASTICS, an appellation given to relaxing medicines, as oil, butter, *&c.*

CHALAZA, among naturaliſts, a white knotty ſort of ſtring at each end of an egg, formed of a plexus of the fibres of the membranes, whereby the yolk and white are connected together. See EGG.

CHALCANTHA, in natural hiſtory, a kind of compound ſalts, of a coarſe and irregular ſtructure, conſiderably hard, and naturally impure and opake.

Of theſe, authors enumerate a great many ſpecies, as the browniſh red chalcanthum, or chalcitis of the antients; the yellow chalcanthum, or miſy of the Greeks; the blackiſh chalcanthum, or ſory of the antients, and ruſma of the moderns; and the gold-coloured, friable chalcanthum, or melanteria of the antients. See the articles CHALCITIS, MISY, *&c.*

CHALCEDONY, *chalcedonius*, in natural hiſtory, a genus of ſemipellucid gems, of an even and regular not tabulated texture, of a ſemi-opake, cryſtalline baſis, and variegated with different colours, diſperſed in form of miſts and clouds, and, if nicely examined, found to be owing to an admixture of various kinds of earths, but imperfectly blended in the maſs, and often viſible in diſtinct moleculæ.

Of this genus there are a great many ſpecies, as the bluiſh-white chalcedony; the browniſh black chalcedony, or ſmoaky jaſper or capnitis of the antients; and the yellow and red chalcedony.

All the chalcedonies give fire readily with ſteel, and make no effervеſcence with aqua-fortis.

CHALCIDICA, or CHALCIDICUM, in antient architecture, a magnificent hall belonging to a tribunal or court of juſtice. Some writers make it the court where affairs of coinage were regulated; others, the mint itſelf. Vitruvius uſes it for the auditory of a baſilica; and ſometimes it expreſſes the apartment where the gods were imagined to eat.

CHALCITIS, the name given by the antients to the browniſh-red chalcanthum, of a ſoft and friable ſubſtance, and ſhewing a very irregular ſurface when broken; being compoſed of five or ſix ſeries of ſhort, waved and undulated ſtriæ. See the article CHALCANTHA.

It is found in many parts of the turkiſh dominions, and is given internally by ſome after calcination, in fluxes and hæmorrhages.

CHALDEA, or BABYLONIA, the antient name of a country of Aſia, now called Eyrac Arabic. See EYRAC ARABIC.

CHALDEE, or CHALDAIC *language*, that ſpoken by the Chaldeans, or people of Chaldea: it is a dialect of the Hebrew.

CHALDEE *paraphraſe*, in the rabbinical ſtile, is termed targum. See TARGUM.

CHALDRON, a dry engliſh meaſure, conſiſting of thirty-ſix buſhels, heaped up according to the ſealed buſhel kept at Guild-hall, London: but on ſhip-board, twenty-one chaldron of coals are allowed to the ſcore. The chaldron ſhould weigh two thouſand pounds.

CHALICE, the cup or veſſel uſed to adminiſter the wine in the ſacrament; and by the roman-catholics in the maſs.

The uſe of the chalice, or communicating in both kinds, is, by the church of Rome, denied to the laity, who communicate only in one kind; the clergy alone being allowed the privilege of communicating in both kinds.

CHALIZA, in hebrew antiquity, the ceremony whereby a woman left a widow, pulled off her brother-in-law's ſhoes, who ſhould have eſpouſed her; after which ſhe was at liberty to marry whom ſhe pleaſed. See the article WIDOW.

CHALK,

CHALK, in natural-hiftory, the englifh name of the white, dry marle, with a dufty furface, found in hard maffes, and called by authors *creta*, and *terra creta*.

Chalk thrown into water, raifes a great number of bubbles, with a hiffing noife, and flowly diffufes itfelf into an impalpable powder. It ferments more ftrongly with acids than any other earth, and burns to lime.

As a medicine, chalk deferves, perhaps, the higheft place among the alkaline abforbents; nor is it lefs ufeful in many of the ordinary affairs of life. Its ufe in cleaning various utenfils is well known, and it is in no fmall repute as a manure, efpecially for cold four lands; in which intention the foft unctuous chalk is moft proper, as the dry, hard, and ftrong chalk is for lime. It is a great improver of lands, and will even change the very nature of them. However, it is moft advifeable to mix one load of chalk, with two or three of dung, mud, or frefh mould, whereby it will become a lafting advantage to the ground: the common allowance is fourteen loads of chalk to every acre.

Black CHALK, among painters, denotes a kind of ochreous earth, of a clofe ftructure, and fine black colour, ufed in drawing upon blue paper.

Red CHALK, an indurated clayey ochre, common in the colour-fhops, and much ufed by painters and artificers.

CHALK JULEP. See the article JULEP.

CHALKY LAND, that lying on a chalky bottom, whereby it is ftrongly impregnated with the virtues of the chalk.

Thefe lands naturally produce mayweeds, poppies, &c. Saint-foin and trefoil likewife agree with them; and their beft produce of corn is barley or wheat, though oats will likewife do well on them.

The beft manure for chalky lands is rags, dung, and folding of fheep. If rain happens to fall on them juft after fowing, it binds the earth fo hard, that the corn cannot pafs thro' it. To prevent which misfortune, it is ufual to manure thefe lands with half-rotten dung, with which fome mix fand.

CHALLENGE, a cartel, or invitation to a duel, or other combat. See the article DUEL.

CHALLENGE, in law, is an exception made to jurors, who are returned to a perfon on a trial.

This challenge is made either to the array, or to the polls: to the array, when exception is taken to the whole number of jurors impannelled; and to the polls, when an exception is made to one or more of the jury as not indifferent.

Challenge to the jurors is likewife divided into challenge principal or peremptory, and challenge for caufe; that is, upon caufe or reafon alledged. Challenge principal, is what the law allows without any caufe alledged, or further examination: as a prifoner arraigned at the bar for felony, may challenge peremptorily the number allowed him by law, being twenty, one after another, alledging no further caufe than his own diflike: and the jurors, fo challenged, fhall be put off, and new ones taken in their places.

In cafes of treafon and petit-treafon, the number of thirty-five jurors may be peremptorily challenged, without fhewing any caufe; and more, both in treafon and felony, may be challenged, fhewing caufe.

If thofe who profecute for the king challenge a juror, they are to affign the caufe; and if the caufe alledged be not a good one, the inqueft fhall be taken. When the king is party, if the other fide challenge any juror above the number allowed, he ought to fhew caufe of his challenge immediately, while the jury is full, and before they are fworn.

There may be a principal caufe of challenge in civil actions, and a challenge for favour. The principal challenge is in refpect of partiality, or default of the fheriff, &c. Challenge for favour, is when the plaintiff or defendant is tenant to the fheriff, or if the fheriff's fon has married the daughter of the party, &c.

CHALLENGE, among hunters. When hounds or beagles, at firft finding the fcent of their game, prefently open and cry, they are faid to challenge.

CHALLONS *on the Marne*, the capital of the Challonois, in the province of Champaign, in France, fituated eighty-two miles eaft of Paris, and thirty fouth-eaft of Rheims; eaft longitude 4° 35′, north latitude 48° 55′.

It is a bifhop's fee.

CHALLONS *on the Soan*, a city of Burgundy, in France, thirty-two miles fouth of Dijon; eaft long. 5°, north lat. 46° 40′.

It is the fee of a bifhop.

CHALYBEAT, in medicine, an appellation

tion given to any liquid, as wine or water, impregnated with particles of iron or steel.

Chalybeates act chiefly as absorbents and deobstruents. The action of the particles of a chalybeate, by their elasticity, together with the momentum they give the blood by their ponderosity, makes it not only preferable to most other deobstruents, but also proper in other cases; especially where there is a viscidity of the juices, the blood depauperated, and where the circulation is languid, as in most hectic and hypochondriac cases, &c.

Dr. Short, in his history of the mineral waters, has classed them into the warm purging chalybeat, diuretic chalybeat, purging and plain sulphur-waters.

Of the warm purging chalybeat waters, that of Buxton seems to be the principal. See the article BUXTON-WELLS.

The purging chalybeat contains a mineral spirit, sulphur, vitriol, nitre, and sea-salt, with a calcarious earth, of which some particles are attracted by the load-stone, which proves them to be iron: of these, the Scarborough-spaw is now in greatest reputation. See SCARBOROUGH.

The diuretic chalybeat water consists of much the same principles with the former class, only the salts are in less proportion; of these there are great numbers in Yorkshire.

Dr. Monro, professor of anatomy at Edinburgh, by pouring a tincture of galls into common water, and dissolving therein a small quantity of sal martis, adding some filings of iron and oil of vitriol, procured a water exactly like the natural chalybeat waters; and he is of opinion, that where these are not to be had, the artificial water may be made to answer all their intentions, according to its being more or less closely kept, or exposed in the air or heat, &c. *Vide* Med. Ess. Edinb.

CHAM, or KHAN, a word of much the same import with king in english: it is the title of the sovereign princes of Tartary, and is likewise applied to the principal noblemen of Persia.

CHAM, in geography, a town of the bavarian palatinate, situated on a river of the same name, about twenty-five miles north-east of Ratisbon; east long. 13°, north lat. 49° 15′.

CHAMA, in the history of shell fish, is reckoned by Linnæus a species of concha, distinguished by its convex, equal, and patent valves. See CONCHA.

Others make the chama a distinct genus, the shell of which is formed of two valves, which are both convex, or gibbose, and equal; and though shut, always leave an opening in one part.

There is a great variety among the several species of chama; some being perfectly smooth, some striated, and some rugose, or even spinose; whilst others are oblong, others roundish; some equilateral, and others not so, &c.

Among a great many elegant species of this genus, we may reckon, 1. The *concha veneris*, or Venus's shell, with a spinose edge. 2. The agate-chama. And, 3. The ziczac chama.

CHAMADE, in war, a signal made by beat of drum for a conference with the enemy, when any thing is to be proposed; as a cessation of arms, to bring off the dead, or a signal made by the besieged, when they have a mind to deliver up a place upon articles of capitulation: in which case there is a suspension of arms, and hostages delivered on both sides.

CHAMÆDRYS, GERMANDER, according to Tournefort, makes a distinct genus of plants; but is ranged by Linnæus under teucrium. See TEUCRIUM.

CHAMÆLEON, *chamæleo*, in zoology, a species of lizard with a short rounded tail, five toes on each foot, two or three of which adhere together. See LIZARD.

There are four distinct varieties of this animal. 1. The arabian kind, which is small, and hardly exceeding the green lizard in size: this is of a whitish colour, variegated with yellowish and redish spots. 2. The ægyptian, which is twice as large as the arabian, and is of a middle colour between the whitish hue of the arabian and a fair green: this changes its colour to a paler or deeper yellow. 3. The mexican. And fourthly, a kind sometimes shewn about as a sight, and met with by J. Faber Lynceus at Rome, which differed from all the others. The arabian and mexican chameleons seldom exceed six inches in length; the ægyptian is nine or more; its head is large, but the thickness of its body is not to be determined, as the creature alters that at pleasure, as it more or less inflates its body; and this inflation not only goes through the whole body, but into the legs and tail. This inflation is not at all like the breathing of other animals, for the body when thus puffed out will remain so two hours, only gradually and insensibly sinking all the time, and afterwards will be inflated again, but that much

much more quickly than it ſubſided. It is able a long time to continue either of theſe ſtates, but more frequently remains empty for a conſiderable ſpace, in which time, though before it appeared in good caſe, it looks miſerably lean and lank, and its back-bone may be ſeen perfectly, its ribs counted, and even the large tendons of the feet diſtinctly obſerved by the naked eye through the ſkin. The back-bone, however, is not ſerrated as many have affirmed, but makes, in this its lean ſtate, a plain ſharp ridge, and the whole animal looks ſo miſerably meagre, that it has not unaptly been called a living ſkin. The head is very like that of ſome fiſhes, and is joined almoſt immediately to the breaſt, the neck being extremely ſhort, and has at the ſides two cartilaginous eminences, in the manner of fiſhes. It has a creſt ſtanding up in the middle of the forehead, and two others over the eyes, and between the creſts there are two remarkable depreſſions, the noſe and mouth running from the eyes with a double edge to the end of the ſnout, reſemble thoſe of a frog: at the extremity of the noſe there are two perforations, which ſeem to ſerve as noſtrils; the mouth being always kept cloſe ſhut, and the creature appearing to have no power of reſpiring but by means of theſe. Its mouth is furniſhed with teeth, or rather with continued denticulated bones. Theſe are of no ſervice to the creature in eating, ſince it preys on flies, and ſwallows them whole; but may ſerve for its defence in holding faſt a ſtick in its mouth, which, according to Ælian, this creature does, placing the ſtick croſs-ways, to prevent its being ſwallowed by ſerpents.

The ſtructure and motion of this creature's eyes is very ſurprizing; they are very large, and ſet in large cavities, appearing to be large ſpheres, of which one half ſtands out of the head, and is covered with a thin ſkin, perforated with a ſmall hole at the top, through which is ſeen a very vivid and bright pupil, ſurrounded with a yellow iris; this hole is properly a longitudinal ſlit, which the creature opens more or leſs wide at pleaſure, and the eye ſeems fixed to this eye-lid ſo as to follow all its motions, not turning round within it, as in other creatures. The motion of the eyes of this creature is not leſs ſingular than their ſtructure, ſince it can turn them ſo as to ſee what paſſes either far backward, on either ſide, or directly behind it, without at all moving the head, which is fixed to the ſhoulders, and the creature can give one eye all theſe motions while the other is perfectly ſtill. The trunk of the body is properly all breaſt, for the creature has no belly, its ribs being continued to the ilia; the feet have all five toes, two behind, and three before, the hinder ones being as large as the others. This creature moves as ſlow as the tortoiſe, which appears very ſingular, as its legs are ſufficiently long, and it has no great weight of body to carry; but it is ſaid, that on trees, in its wild ſtate, it moves very nimbly. Its tail when inflated is round as that of a rat or ſnake; when empty, it is very lank, and has three longitudinal ridges running along it, which are owing to the apophyſes of the ſpine. This tail is a great ſafety to the creature on trees, as it twiſts it round the branches when in any danger of falling.

The ſkin of the chamæleon from the head to the laſt joint of the tail is, according to ſome, plaited, and rough like a ſaw; but Dr. Goddard affirms, that it is grained like ſhagreen; the biggeſt grains being about the head; the next on the ridge of the back. The tongue is half as long as the animal; it conſiſts of a white fleſh, round as far as the tip, which is hollow, like an elephant's trunk, whence ſome call it a trunk. This it can dart out very nimbly, and draw in again, over a bone that reaches from the root half its length. The great uſe of its tongue is to catch flies: ſome ſay the tongue is tipped with a glutinous matter which the flies ſtick to. The royal academy of ſciences at Paris frequently obſerved the chamæleon which they had to catch and ſwallow flies; they found alſo the ſigns of them in its fæces: and, upon diſſection, the ſtomach and inteſtines were found full of them. So that the common tradition of the chamæleon's living upon air proves contrary to experience.

The chamæleon has been ſuppoſed, by both the antients and moderns, to have a faculty of changing its colour, and aſſuming that of the objects near it. M. Perrault aſſures us, that the colour of the chamæleon, when at reſt and in the ſhade, is ſomewhat various; that at Paris was a bluiſh grey; but, when expoſed to the ſun, became a darker grey; and its leſs illuminated part changed into divers colours; forming ſpots, half as big as one's finger end, ſome of an iſabella colour;

colour; the grains, not illuminated at all, resembled a cloth of divers colours. That described by Dr. Goddard in the philosophical transactions was of several colours, a green, a sandy yellow, and a deeper yellow, or liver colour; but one might easily imagine some mixture of all colours. He adds, that upon rubbing or warming, it suddenly became full of black spots, as big as a large pin's head, equally dispersed on the sides, all which would afterwards vanish. Mr. Perrault observes something like this of the Paris chamæleon, that upon handling or stirring, it would appear stained with dark spots, bordering on green: and that, wrapping it up in a linen cloth for a few minutes, it would come out whitish, though not always so; but would not take the colour of any other stuff it was wrapped in. So that what Theophrastus and Plutarch write of its assuming all the colours it comes near, is contrary to experience. Monconys assures us, that the chamæleon, when placed in the sun, appears green, though near no green object; that it appears black by the candle, though placed on white paper; and that, when shut up in a box, it becomes yellow and green: and he says, that it never assumes any other colour than these.

Naturalists, are very little agreed, as to the reason of this change of colour; and therefore we shall not repeat their several hypotheses, the following being sufficient for our purpose.

The chamæleon is represented as an exceeding lean animal, insomuch that the Italians call it a living skin. M. Perrault observes of that he dissected in the king's library, that one hour it appeared to be a mere skin, and yet the next it would appear plump. Hence we gather that it must have a very great command over the skin as to tension and laxity. Now, the animal, having it in his power to fill the skin more or less, cannot only alter the texture of the fibres, upon which their reflexive quality greatly depends; but also to bring parts into sight which before lay concealed, or to conceal such as before lay open: and it is more than probable, that the parts commonly covered are of a somewhat different colour from those always open to the air. On these principles, probably, all the phænomena in the chamæleon's colour may be solved. The animal, it is plain, has a power of reflecting different coloured rays from the same parts; and likewise making certain parts reflect, and prevent others from doing so; and hence that medley of colours.

CHAMÆLEON THISTLE, *ixia*, in botany. See the article IXIA.

CHAMÆMILE, *chamæmelum*, STINKING MAY-WEED, in botany, the same with the anthemis of Linnæus. It belongs to the syngenesia-polygamia-superflua class of plants; its flower is of the compound, radiated kind; and its fruit is a single, oval, compressed, and naked seed, contained in the calyx, or cup of the flower.

Chamæmile-flowers are given in infusion by way of emetic, are used in emollient decoctions, and are always an ingredient in clysters. The dried leaves are accounted laxative and emollient, and said to promote urine and the menses.

CHAMÆPITYS, GROUND-PINE, in botany, makes a distinct genus of plants, according to Tournefort, but is comprehended under teucrium by Linnæus. See the article TEUCRIUM.

CHAMÆROPS, in botany, a genus of plants, the class of which is not yet perfectly ascertained; the corolla of the hermaphrodite flower is divided into three parts; the petals are ovated, erect, acute, and inflected at the top: it contains six stamina: the fruit consists of three berries, globose, with one cell, containing solitary, globose seeds. The corolla of the male flower is the same as in the hermaphrodite.

CHAMANIM, in jewish antiquity, idols, exposed to the sun upon the tops of houses, according to Rabbi Solomon: others will have the chamanim to be the same with what the Greeks call pyıæa, that is, portable chapels, or temples, made in the form of chariots, in honour of the sun.

CHAMBER, in building, any room situated between the lowermost and the uppermost rooms: in most houses there are two, in others three or more stories of chambers. Sir Henry Wotton directs, that the principal chambers for delight, be situated towards the east. Palladio's rules for the height of chambers, antichambers, and halls, either flat or arched, are as follows. 1. If they be flat, he advises to divide the breadth into three parts, and to take two of them for the heighth of the story from the floor to the joist. If the chamber is desired higher, the breadth must be divided into seven, of which take five for the heighth. 2. The heighth of the second story, should be $\frac{1}{12}$ less than that

that of the chambers below. 3. For an attic or third story, the second must be divided into twelve equal parts; nine of which will give the height from the floor to the bottom of the joists.

Bed-CHAMBER, one with a bed in it. See the article BED.

Privy-CHAMBER. Gentlemen of the privy chamber, are servants of the king, who are to wait and attend on him and the queen at court, in their diversions, &c. Their number is forty-eight under the lord-chamberlain, twelve of whom are in quarterly waiting, and two of these lie in the privy-chamber.

In the absence of the lord chamberlain, or vice-chamberlain, they execute the king's orders: at coronations, two of them personate the dukes of Aquitain and Normandy: and six of them, appointed by the lord-chamberlain, attend ambassadors from crowned heads to their audiences, and in public entries. The gentlemen of the privy-chamber, were instituted by Henry VII.

CHAMBER, in policy, the place where certain assemblies are held, also the assemblies themselves. Of these, some are established for the administration of justice, others for commercial affairs.

Of the first kind are, 1. Star chamber, so called, because the roof was painted with stars; the authority, power, and jurisdiction of which are absolutely abolished by the statute 17 Car. I. 2. Imperial chamber of Spire, the supreme court of judicatory in the empire, erected by Maximilian I. This chamber has a right of judging by appeal, and is the last resort of all civil affairs of the states and subjects of the empire, in the same manner as the aulic council of Vienna. Nevertheless it is restrained in several cases; it takes no notice of matrimonial causes, these being left to the pope; nor of criminal causes, which either belong to particular princes or towns in their respective territories, or are cognizable by all the states of the empire in a diet. By the treaty of Osnaburg, in 1648, fifty assessors were appointed for this chamber, whereof twenty-four were to be protestants, and twenty six catholics, besides five presidents, two of them protestants, and the rest catholics. 3. Chamber of accounts, a sovereign court in France, where accounts are rendered of all the king's revenues, inventories, and avowels thereof registered, oaths of fidelity taken, and other things relating to the finances transacted. There are nine in France, that of Paris is the chief; it registers proclamations, treaties of peace, naturalizations, titles of nobility, &c. All the members wear long black gowns of velvet, of sattin or damask, according to their places. 4. Ecclesiastical chambers in France, which judge by appeal of differences about collecting the tythes. 5. Chamber of audience, or grand chamber, a jurisdiction in each parliament of France, the counsellors of which are called *jugeurs*, or judges, as those of the chamber of inquests are called *rapporteurs*, reporters of processes by writing. 6. Chamber of the edict, or mi-party, a court established by virtue of the edict of pacification, in favour of those of the reformed religion. This chamber is now suppressed. 7. Apostolical chamber of Rome, that wherein affairs relating to the revenues of the church and the pope are transacted. This council consists of the cardinal-camerlingo, the governor of the rota, a treasurer, an auditor, a president, one advocate-general, a solicitor-general, a commissary, and twelve clerks. 8. Chamber of London, an apartment in Guildhall, where the city money is deposited.

Of the last sort are, 1. The chambers of commerce. 2. The chambers of assurance. And, 3. The royal or syndical chamber of booksellers in France.

The chamber of commerce is an assembly of merchants and traders, where the affairs relating to trade are treated of. There are several established in most of the chief cities of France; and in our own country, we have lately seen chambers of this kind erected for carrying on the british herring fishery. Chamber of assurance in France, denotes a society of merchants and others for carrying on the business of insuring; but in Holland, it signifies a court of justice, where causes relating to insurances are tried. Chamber of booksellers in Paris, an assembly consisting of a syndic and assistants, elected by four delegates from the printers, and twelve from the booksellers, to visit the books imported from abroad, and to search the houses of sellers of marbled paper, printsellers, and dealers in printed paper for hangings, who are prohibited from keeping any letters proper for printing books. In the visitation of books, which ought to be performed by three persons at least from among the syndic and assistants, all libels against the honour

nour of God and the welfare of the ftate, and all books printed either within or without the kingdom in breach of their regulations and privileges, are ftopt, even with the merchandizes that may happen to be in the bales with fuch libels, or other prohibited books. The days appointed for this chamber to meet, are Tuefdays and Fridays, at two o'clock in the afternoon.

CHAMBER, in war, is faid, 1. Of a powder-chamber, or bomb-chamber, a place funk under ground for holding the powder or bombs, where they may be out of danger, and fecured from the rain. 2. Of the chamber of a mine, the place, moft commonly of a cubical form, where the powder is confined. And, 3. Of the chamber of a mortar, that part of the chace, much narrower than the reft of the cylinder, where the powder lies. It is of different forms, fometimes like a reverfed cone, fometimes globular, with a neck for its communication with the cylinder, whence it is called a bottled chamber, but moft commonly cylindrical, that being the form which is found by experience to carry the ball to the greateft diftance.

CHAMBERDEKINS, in old writers, were poor irifh fcholars, cloathed in mean habits, and living under no rule. They were banifhed England by ftatute Henry V. cap. 8.

CHAMBERLAIN, an officer charged with the management and direction of a chamber. See the article CHAMBER.

There are almoft as many kinds of chamberlains as chambers, the principal whereof are as follow.

Lord CHAMBERLAIN *of Great Britain*, the fixth great officer of the crown; to whom belongs livery and lodging in the king's court; and there are certain fees due to him from each archbifhop or bifhop, when they perform their homage to the king; and from all peers at their creation; or doing their homage. At the coronation of every king, he is to have forty ells of crimfon velvet for his own robes. This officer, on the coronation-day, is to bring the king his fhirt, coif, and wearing cloaths; and after the king is dreffed, he claims his bed, and all the furniture of his chamber for his fees: he alfo carries at the coronation, the coif, gloves, and linen to be ufed by the king on that occafion; alfo the fword and fcabbard, the gold to be offered by the king, and the robes-royal and crown: he dreffes and undreffes the king on that day, waits on him before and after dinner &c. To this officer belongs the care of providing all things in the houfe of lords, in the time of parliament; to him alfo belongs the government of the palace of Weftminfter: he difpofes likewife of the fword of ftate, to be carried before the king, to what lord he pleafes.

Lord CHAMBERLAIN *of the houfhold*, an officer who has the overfight and direction of all officers belonging to the king's chambers, except the precinct of the king's bed-chamber.

He has the overfight of the officers of the wardrobe at all his majefty's houfes, and of the removing wardrobes, or of beds, tents, revels, mufic, comedians, hunting, meffengers, &c. retained in the king's fervice. He moreover has the overfight and direction of the ferjeants at arms, of all phyficians, apothecaries, furgeons, barbers, the king's chaplains, &c. and adminifters the oath to all officers above ftairs.

Other chamberlains, are thofe of the king's court of exchequer, of north Wales, of Chefter, of the city of London, &c. in which cafes this officer is generally the receiver of all rents and revenues belonging to the place whereof he is chamberlain.

In the exchequer there are two chamberlains, who keep a controulment of the pells of receipts and exitus, and have certain keys of the treafury, records, &c.

CHAMBERLAIN *of London* keeps the city-money, which is laid up in the chamber of London: he alfo prefides over the affairs of mafters and apprentices, and makes free of the city, &c.

His office lafts only a year, but the cuftom ufually obtains to re-choofe the fame perfon, unlefs charged with any mifdemeanor in his office.

Vice-CHAMBERLAIN, called alfo in antient ftatutes, under-chamberlain, is an officer in the court next under the lord chamberlain; and who, in his abfence, has command and controul of all affairs belonging to that part of the houfhold, called the chamber above ftairs.

CHAMBERRY, the capital of the dutchy of Savoy, in Italy, fituated ninety miles north-weft of Turin, and forty-five fouth of Geneva; eaft long. 5° 45′, north lat. 45° 40′.

CHAMBRANLE, among builders, an ornament of ftone or wood bordering the three fides of doors, windows and chimnies. It is different according to the feveral

veral orders, and consists of three parts, *viz.* the top, called the traverse, and the two sides, the ascendants.

The chambranle of an ordinary door is frequently called the door-case, and that of a window, the window-frame: this is generally when it is plain, and without mouldings.

CHAMELEON, or CHAMÆLEON. See the article CHAMÆLEON.

CHAMFER, or CHAMFRET, in architecture, an ornament consisting of half a scotia, being a kind of a small furrow or gutter on a column, called also scapus, stria, *&c.*

CHAMFERING, in architecture, a term used for the cutting the under edge of any thing aslope or level.

CHAMOIS, or CHAMOIS-GOAT, in zoology, the name of the rupicapra, a creature of the goat-kind, with erect and short but hooked horns. See plate XL. fig. 4.

It is from the skin of this animal that the chamois or shammy leather is made. See the article SHAMMY.

CHAMPAIGN, a province of France, bounded by Picardy, on the north; by Lorrain, on the east; by Burgundy, on the south; and by the isle of France, on the west.

Its capital is Troyes.

CHAMPAIGN, or CAMPAIGN. See the article CAMPAIGN.

CHAMPAIN, or *point* CHAMPAIN, in heraldry, a mark of dishonour in the coat of arms of him who kills a prisoner of war, after he has cried quarter.

CHAMPART, CAMPARTUM, or CAMPIPARS, in our old law-books, signifies any part or portion of a large field or ground.

CHAMPARTORS, or CHAMPERTORS, among lawyers, such as jointly move pleas or suits, either by their own procurement, or by that of others, and sue them at their own proper costs, in order to have part of the lands, or other matters in dispute.

CHAMPARTY, or CHAMPERTY, in law, a contract made with either the plaintiff or defendant in any suit at law, for giving part of the land, debt, *&c.* sued for, to the party who undertakes the process at his own proper charges, provided he succeeds therein.

This seems to have been an antient grievance in this nation; for notwithstanding several statutes were made in the reign of Edward I. yet in that of Edward III. it was enacted, that whereas former statutes provided redress for this evil in the King's-bench only, from henceforth it should be lawful for the justices of the Common-pleas likewise, and justices of assize, to take cognizance in these cases.

CHAMPION, a person who undertakes a combat in the place or quarrel of another; and sometimes the word is used for him who fights in his own cause.

It appears that champions, in the just sense of the word, were persons who fought instead of those that, by custom, were obliged to accept the duel, but had a just excuse for dispensing with it, as being too old, infirm, or being ecclesiastics, and the like. Such causes as could not be decided by the course of common law, were often tried by single combat; and he who had the good fortune to conquer, was always reputed to have justice on his side. Champions who fought for interest only, were held infamous: these hired themselves to the nobility, to fight for them in case of need, and did homage for their pension.

When two champions were chosen to maintain a cause, it was always required that there should be a decree of the judge to authorise the combat: when the judge had pronounced sentence, the accused threw a gage or pledge, originally a glove or gantlet, which being taken up by the accuser, they were both taken into safe custody, till the day of battle appointed by the judge.

Before the champions took the field, their heads were shaved to a kind of crown or round, which was left at the top: then they made an oath that they believed the person who retained them, to be in the right, *&c.* They always engaged on foot, and with no other weapon than a club and a shield, which weapons were blessed in the field by the priest, with a world of ceremonies; and they always made an offering to the church, that God might assist them in the battle.

The action began with railing, and giving each other ill language; and at the sound of a trumpet, they went to blows. After the number of blows or encounters expressed in the cartel, the judges of the combat threw a rod into the air, to advertise the champions that the combat was ended. If it lasted till night, or ended with equal advantage on both sides, the accused was reputed the victor. If the conquered champion fought in the cause of a woman, and it was a capital offence, the

the woman was burnt, and the champion hanged. If it was the champion of a man, and the crime capital, the vanquished was immediately disarmed, led out of the field, and hanged, together with the party whose cause he maintained. If the crime was not capital, he not only made satisfaction, but had his right hand cut off: the accused was to be close confined in prison, till the battle was over.

Champion *of the king*, a person whose office it is, at the coronation of our kings, to ride armed into Westminster-hall, while the king is at dinner there, and, by the proclamation of a herald, make challenge to this effect, *viz.* "That if any man "shall deny the king's title to the crown, "he is there ready to defend it in single "combat, *&c.*" Which done, the king drinks to him, and sends him a gilt cup, with a cover, full of wine, which the champion drinks, and has the cup for his fee.

Champion, or Champain *lands*, are lands not inclosed; or large fields, downs, or places without woods or hedges.

CHAMPLAIN, the name of a lake, situated northwards of the province of New York, in north America; west long. 75°, north lat. 45°.

CHANCE, in a general sense, a term applied to events, not necessarily produced, as the natural effects of any proper foreknown cause.

We certainly mean no more in saying that a thing happened by chance, than that its cause is unknown to us: for chance itself is no natural agent or cause; it is incapable of producing any effect, and is no more than a creature of man's own making; for the things done in the corporeal world, are really done by the parts of the universal matter, acting and suffering, according to the laws of motion established by the author of nature. Chance is also confounded with fate and destiny.

Chance is more particularly used for the probability of an event, and is greater or less, according to the number of chances by which it may happen, compared with the number of chances by which it may fail. Thus, if an event has three chances to happen, and two to fail, the probability of it happening may be estimated $\frac{3}{5}$ and the probability of its failing $\frac{2}{5}$. Therefore if the probability of happening and failing be added together, the sum will always be equal to unity.

If the probabilities of happening and failing are unequal, there is what is commonly called odds for, or against, the happening or failing, which odds are proportional to the number of chances for happening or failing.

The expectation of obtaining any thing, is estimated by the value of that thing, multiplied by the probability of obtaining it. The risk of losing any thing, is estimated by the value of that thing, multiplied by the probability of losing it. If, from the expectations which the gamesters have upon the whole sum deposited, the particular sums they deposite (that is, their own stakes) be substracted, there will remain the gain, if the difference is positive; or the loss, if the difference is negative. Again, if from the respective expectations which either gamester has upon the sum deposited by his adversary, the risk of losing what he himself deposites be substracted, there will likewise remain his gain or loss.

If there is a certain number of chances by which the possession of a sum can be secured, and also a certain number of chances by which it may be lost, that sum may be insured for that part of it, which shall be to the whole, as the number of chances there is to lose it, is to the number of all the chances.

If two events have no dependence on each other, so that p be the number of chances by which the first may happen, and q the number of chances by which it may fail; and likewise, that r be the number of chances by which the second may happen, and s the number of chances by which it may fail: multiply $p+q$ by $r+s$ and the product $pr+qr+ps+qs$ will contain all the chances by which the happening or failing of the events may be varied amongst one another.

From what has been said, it follows, that if a fraction expresses the probability of an event, and another fraction the probability of another event, and these two events are independent, the probability that these two events will happen, will be the product of the two fractions.

For the application of the doctrine of chances to gaming, see Gaming.

M. Placete observes, that the antient sors, a kind of lottery, or chance, was instituted by God himself, there being in the old testament several standing laws and express commands for its use, on certain occasions: hence arose the *sortes Sanctorum*,

fanctorum, or method of determining things among the antient chriftians, by opening fome of the facred books, and pitching on the firft verfe they caft their eye on, as a fure prognoftic of what was to happen. The *fortes homericæ, virgilianæ, prænestinæ, &c.* ufed by the heathens, were with the fame view, and much in the fame manner.

Many among the modern divines, hold chance to be conducted in a particular manner by providence, and efteem it an extraordinary way which God ufes to declare his will, and a kind of immediate revelation. On this foundation it is, that they condemn all manner of lotteries and gaming, which are alfo blameable in a political view.

CHANCE-MEDLEY, in law, is the accidental killing of a man, not altogether without the killer's fault, though without any evil intention; and is where one is doing a lawful act, and a perfon is killed thereby: for, if the act be unlawful, it is felony.

The difference betwixt chance-medley and manflaughter is this: if a perfon caft a ftone, which happens to hit one, and he dies; or if a workman, in throwing down rubbifh from a houfe, after warning to take care, kill a perfon, it is chance-medley and mifadventure: but if a perfon throws ftones on the highway, where people ufually pafs; or a workman throws down rubbifh from a houfe in cities and towns where people are continually paffing; or if a man whips his horfe in the ftreet, to make him gallop, and the horfe runs over a child and kills it, it is manflaughter: but if another whips the horfe, it is manflaughter in him, and chance-medley in the rider. In chance-medley the offender forfeits his goods, but has a pardon of courfe.

CHANCEL, a particular part of the fabric of a chriftian church; or that part of the choir between the altar and the baluftrade that inclofes it, where the minifter is placed at the celebration of the communion.

CHANCEL is alfo the rector's freehold and part of his glebe, and therefore he is obliged to repair it; but where the rectory is impropriate, the impropriator muft do it.

CHANCELLOR, an officer fuppofed originally to have been a notary or fcribe under the emperors, and named *cancellarius*, becaufe he fat behind a lattice, called in latin *cancellus*, to avoid being crowded by the people.

According to a late treatife, the chancellor originally prefided over a political college of fecretaries, for the writing of treaties, and other public bufinefs; and the court of equity, under the old conftitution, was held before the king and his council, in the palace, where one fupreme court for bufinefs of every kind was kept. At firft the chancellor became a judge, to hear and determine petitions to the king, which were preferred to him; and in the end, as bufinefs increafed, the people addreffed their fuit to the chancellor, and not to the king; and thus the chancellor's equitable power, by degrees, commenced by prefcription.

Lord high CHANCELLOR *of Great-Britain*, or *lord keeper of the great feal*, is the higheft honour of the long robe, being made fo *per traditionem magni figilli, per dominum regem*, and by taking the oaths: he is the firft perfon of the realm next after the king, and princes of the blood, in all civil affairs; and is the chief adminiftrator of juftice, next the fovereign, being the judge of the court of chancery.

All other juftices are tied to the ftrict rules of the law in their judgment: but the chancellor is invefted with the king's abfolute power, to moderate the written law, governing his judgment purely by the law of nature and confcience, and ordering all things according to equity and juftice. In this refpect, Stamford fays, the chancellor has two powers, one abfolute, the other ordinary; meaning, that although by his ordinary power, in fome cafes, he muft obferve the forms of proceedings, as other inferior judges; yet in his abfolute power, he is not limited by the law, but by confcience and equity.

The lord chancellor not only keeps the king's great feal; but alfo all patents, commiffions, warrants, &c. from the king, are, before they are figned, perufed by him: he has the difpofition of all ecclefiaftical benefices in the gift of the crown under 20 l. a year, in the king's books; and he is fpeaker of the houfe of lords. See the article PARLIAMENT.

CHANCELLOR *of a cathedral*, an officer that hears leffons and lectures read in the church; either by himfelf or his vicar; to correct and fet right the reader when he reads amifs; to infpect fchools; to hear caufes; apply the feal, write and difpatch the letters of the chapter; keep the

the books; take care that there be frequent preachings both in the church and out of it; and assign the office of preaching to whom he pleases.

CHANCELLOR *of a diocese*, a lay officer under a bishop, who is judge of his court. See the article BISHOP'S-*court*.

CHANCELLOR *of the dutchy of Lancaster*, an officer appointed chiefly to determine controversies between the king and his tenants of the dutchy land, and otherwise to direct all the king's affairs belonging to that court. See the article DUTCHY-COURT.

CHANCELLOR *of the exchequer*, an officer who presides in that court, and takes care of the interest of the crown.

He is always in commission with the lord treasurer, for the letting of crown-lands, *&c.* and has power, with others, to compound for forfeitures of lands, upon penal statutes: he has also great authority in managing the royal revenues, and in matters relating to the first fruits.

CHANCELLOR *of the order of the garter, and other military orders*, is an officer who seals the commissions and mandates of the chapter and assembly of the knights, keeps the register of their proceedings, and delivers acts thereof under the seal of their order.

CHANCELLOR *of an university*, is he who seals the diplomas, or letters of degrees, provision, *&c.* given in the university.

The chancellor of Oxford is usually one of the prime nobility, chosen by the students themselves in convocation. He is their chief magistrate; his office is *durante vita*, to govern the university, preserve and defend its rights and privileges, convoke assemblies, and do justice among the members under his jurisdiction.

Under the chancellor is the vice-chancellor who is chosen annually, being nominated by the chancellor, and elected by the university in convocation: he is always the head of some college, and in holy orders. His proper office is to execute the chancellor's power, to govern the university according to her statutes, to see that officers and students do their duty, that courts be duly called, *&c.* When he enters upon his office, he chuses four pro-vice-chancellors out of the heads of the colleges, to execute his power in his absence.

The chancellor of Cambridge is also usually one of the prime nobility, and in most respects the same as that in Oxford, only he does not hold his office *durante vita*, but may be elected every three years. Under the chancellor there is a commissary, who holds a court of record for all privileged persons and scholars under the degree of master of arts, where all causes are tried and determined by the civil and statute law, and by the custom of the university.

The vice-chancellor of Cambridge is chosen annually, by the senate, out of two persons nominated by the heads of the several colleges and halls.

CHANCERY, the grand court of equity and conscience, instituted to moderate the rigour of the other courts that are bound to the strict letter of the law.

The jurisdiction of this court is of two kinds, ordinary or legal, and extraordinary or absolute. The ordinary jurisdiction is that wherein the lord chancellor, who is judge of this court, in his proceedings and judgment, is bound to observe the order and method of the common law; in such cases the proceedings, which were formerly in Latin, but now in English, are filed or enrolled in the petty-bag-office; and the extraordinary, or unlimited power, is that jurisdiction which the court exercises in cases of equity, wherein relief is to be had by bill and answer.

The ordinary court holds plea of recognizances acknowledged in the chancery, writs of *scire facias* for repeal of the king's letters patent, *&c.* also of all personal actions, by or against any officer of the court, and of several offences and causes by act of parliament; all original writs, commissions of bankrupts, of charitable uses, of ideots, lunacy, *&c.* are issued hence.

The extraordinary court gives relief for and against infants, notwithstanding their minority; for and against married women, notwithstanding their coverture. All frauds and deceits, for which there is no redress at common law, all breaches of trust, confidences and accidents, as to relieve obligors, mortgagors, *&c.* against penalties and forfeitures, where the intention was to pay the debt, are here remedied. But in all cases where the plaintiff can have his remedy at law, he ought not to be relieved in chancery; and a thing which may be tried by a jury, is not triable in this court.

The court of chancery will not retain a suit for any thing under ten pounds value, except in cases of charity, nor for lands,

lands, *&c.* under forty shillings *per ann.* In this court all patents, most sorts of commissions, deeds between parties touching lands and estates, treaties with foreign princes, *&c.* are sealed and enrolled. Out of it are issued writs to convene the parliament and convocation, proclamations and charters, *&c.* For the several officers belonging to the court of chancery, see the articles MASTER *of the rolls*, MASTERS *in chancery*, CLERK, *&c.*

Apostolic CHANCERY, a court in the church of Rome, belonging to the pope.

The pope's datory and chancery courts were formerly one and the same thing: but the multitude of affairs to be transacted therein, obliged him to divide it into two tribunals, which are so nearly related to one another, that the chancery does no more than dispatch all that has passed through the datory court. See the article DATORY *court.*

The officers belonging to this court, are the regent, prelates, and registers. There are also six masters in chancery, whose business it is to collect the bulls: each of these employments is purchased for six thousand crowns. These are subordinate to the master of the rolls, who keeps the register of the bulls.

CHANCRE, in surgery. See the articles SHANKER and ULCER.

CHANDELIER, in fortification, a kind of moveable parapet, consisting of a wooden frame, made of two upright stakes, about six feet high, with cross planks between them; serving to support facines to cover the pioniers.

The chandeliers differ from blinds only in this, that the former cover the men only before, whereas the latter cover them also above.

They are used in approaches, galleries, and mines, to hinder the workmen from being driven from their stations.

CHANFRIN, in the manege, the fore-part of a horse's head, extending from under the ears along the interval between the eye-brows down to his nose.

CHANGE, in the manege. To change a horse, or change hand, is to turn or bear the horse's head from one hand to the other, from the right to the left, or from the left to the right.

You should never change your horse without pushing him forward upon the turn, and after the turn, push him on straight, in order to a stop.

CHANGE *of seed*, in husbandry, the sowing a field or spot of ground first with one kind of seed, then another, and then a third kind. See the article SEED.

This practice, however universal, and perhaps necessary in the common method of husbandry, is nevertheless superseded or rendered useless by the new method, called horse-hoeing husbandry. See the article HUSBANDRY.

CHANGES, in arithmetic, the variations or permutations of any number of things, with regard to their position, order, &c. The method of finding out the number of changes, is by a continual multiplication of all the terms in a series of arithmetical progressionals; whose first term, and common difference, is unity, or 1; and last term the number of things proposed to be varied, *viz.* 1×2×3×4×5×6×7, *&c.* as will appear from what follows:

1st, If the things proposed to be varied are only two, they admit of a double position, as to order of place, and no more.

$$\text{Thus, } \begin{Bmatrix} 1 . 2 \\ 2 . 1 \end{Bmatrix} = 2 = 1 \times 2.$$

2d, And if three things are proposed to be varied, they may be changed six several ways, as to their order of places, and no more.

For, beginning with 1, there will be —— —— { 1.2.3, 1.3.2 }

Next, beginning with 2, there will be —— —— { 2.1.3, 2.3.1 }

Again, beginning with 3, it will be —— —— { 3.1.2, 3.2.1 }

Which in all make 6 or 3 times 2, *viz.* 1×2×3=6.

3d, Suppose 4 things were supposed to be varied, then they admit of 24 several changes, as to their order of different places.

For, beginning the order with 1, it will be —— Here are 6 different changes.

1.2.3.4
1.2.4.3
1.3.2.4
1.3.4.2
1.4.2.3
1.4.3.2

And for the same reason there will be 6 different changes when 2 begins the order, and as many when 3 and 4 begin the order; which in all is 24=1×2×3×4. And by this method of proceeding it may be made evident that 5 things admit of 120 several variations or changes; and 6 things of 720, *&c.* as in this following table:

The

The number of things proposed to be varied.	The manner how their several variations are produced.	The different change or variations every one of the proposed numbers can admit of.
1	1× 1	=1
2	1× 2	=2
3	2× 3	=6
4	6× 4	=24
5	24× 5	=120
6	120× 6	=720
7	720× 7	=5040
8	5040× 8	=40320
9	40320× 9	=362880
10	362880×10	=3628800
11	3628800×11	=39916800
12	39916800×12	=479001600

They may be thus continued on to any assigned number. Suppose to 24, the number of letters in the alphabet, which will admit of 620448401733239439360000 several variations.

CHANGES *of quantities*, in algebra, the same with what is otherwise called combination. See the article COMBINATION.

CHANGE, or EXCHANGE, in matters of commerce. See the article EXCHANGE.

CHANNEL, in architecture, that part of the ionic capital which is under the abacus, and lies open upon the echinus or eggs, which has the centers or turnings on every side to make the volutes.

CHANNEL *of the larmier*, the hollow soffit of a cornice which makes the pendant mouchette. See the article LARMIER.

CHANNEL *of the volute*, in the ionic capital, the face of the circumvolution inclosed by a listel.

CHANNEL, in geography, an arm of the sea, or a narrow sea between two continents, or between a continent and an island. Such are the british channel, St. George's channel, the channel of Constantinople, *&c.*

CHANNEL *of a river*, the bed of a river. See the article RIVER.

CHANNEL *of the mouth of a horse*, that concavity in the middle of the lower jaw, appointed for a place to the tongue; which being bounded on each side by the bars, terminates in the grinders. It should be large enough not to be pressed with the bit mouth.

CHANNEL, in anatomy. See the article CANAL.

CHANNELINGS, in architecture. See the article FLUTES.

CHANT, *cantus*, a term particularly used for vocal church music.

In ecclesiastical history we find mention made of divers kinds of chants. as, 1. The ambrosian, established by St Ambrose. See the article AMBROSIAN-OFFICE.

2. The gregorian chant, called also the roman chant; which is still retained in churches under the name of plain song; for in this, the choir and people sing in union.

CHANTLATE, in building, a piece of wood fastened near the ends of the rafters, and projecting beyond the wall to support two or three rows of tiles; so placed as to prevent the rain-water from trickling down the sides of the walls.

CHANTOR, a singer in the choir of a cathedral. The word is almost grown obsolete, chorister or singing-man being commonly used instead of it.

All great chapters have chantors and chaplains to assist the canons, and officiate in their absence.

CHANTOR is used by way of excellence for the præcentor or master of the choir, which is one of the first dignities of the chapter. At St. David's in Wales, where there is no dean, he is next in dignity to the bishop. The antients called the chantor *primicerius cantorum* To him belonged the direction of the deacons, and other inferior officers.

Chantors in the temple of Jerusalem, were a number of levites employed in singing the praises of God, and playing upon instruments before his altar. They had no habits distinct from the rest of the people; yet in the ceremony of removing the ark to Solomon's temple, the chantors appeared dressed in tunics of byssus or fine linen. 2 Chron. v. 12.

CHANTRY, or CHAUNTRY, a church

or chappel, endowed with lands, &c. for the maintenance of one or more priests to say mass for the souls of the donors. Hence,

Chantry rents, are rents still paid to the crown by the purchasers of those lands.

CHAOLOGY, denotes the history or description of the chaos.

It is most probable that Moses was the first chaologist, and that the greek and latin philosophers extracted their fabulous representation of the chaos, from the true history of the creation of the world in the first book of Genesis. Orpheus and Hesiod among the Greeks, and Ovid among the Latins, have given most beautiful descriptions of the chaos; the last mentioned coincides pretty nearly with the account given by Moses.

We have likewise a chaology by Dr. Burnet, in his theory of the earth. See the next article.

CHAOS, that confusion in which matter lay when newly produced out of nothing at the beginning of the world, before God, by his almighty word, had put it into the order and condition wherein it was after the six days creation.

The antient poets, and Ovid in particular, represent the chaos thus: that there was neither sun to make any day, nor moon to enlighten the night; that the earth was not yet hung in the circumambient air, nor the sea bounded by any shore; but that earth, air, and water, were one undigested mass; consequently, that the earth was not hardened to its proper element, the water was unnavigable, the air gross and not enlightened, and, in short, there was nothing in the universe that had put on its proper form.

All the antient sophists, sages, &c. hold that chaos was the first principle; the poets make him a god, who was the father of all the other gods. Among the moderns, Dr. Burnet represents the chaos, out of which the world was framed, to be at first intire, undivided, and universally rude and deformed; then shews how it came divided into its respective regions, and observes, that, excepting Aristotle, and a few others, who asserted that the world was always, from eternity, of the same form and structure as at present, it has been a prevailing opinion in all ages, that what we call the terrestrial globe, was originally an undigested mass of heterogeneous matter called chaos, and no more than the rudiments and materials of the present world. According to Mr. Whiston, the antient chaos, or origin of our earth, was the atmosphere of a comet; so that every planet with him is a comet, formed into a lasting condition; and a comet is a chaos or planet, unformed in its primeval state.

Chaos, in the old italic version of Luke, cap. xvi. v. 26. is the space between heaven and hell, which the evangelist calls χάσμα, a gulph or abyss.

CHAP, among zoologists, denotes either of the mandibles of a bird's beak, which are distinguished by the epithets *upper* and *lower*. See the article Beak.

CHAPE, among scabbard-makers, denotes the metalline plate fixed on the end of a scabbard, to prevent the point of the sword from piercing through it.

CHAPEAU, in heraldry, an antient cap of dignity worn by dukes, being scarlet-coloured velvet on the outside, and lined with a fur.

It is frequently borne above an helmet instead of a wreath, under gentlemen's crests.

CHAPEL, or Chappel, a place of divine worship, served by an incumbent under the denomination of a chaplain.

In England there are several sorts, 1. Parochial chapels, which, differing from parish churches only in the name, are generally small, as the inhabitants within the district are few. If there be a presentation *ad ecclesiam* instead of *ad capellam*, and an admission and institution upon it, it is no longer a chapel, but a church. 2. Chapels which adjoin to and are part of the church: such were formerly built by honourable persons, as burying places for themselves and their families. 3. Chapels of ease, built in very large parishes for the conveniency of such as cannot repair to the parish church. These are served by inferior curates provided at the charge of the rector, and consequently removeable at his pleasure. Chapels of ease, however, may be parochial, and have a right to sacraments and burials, and to a distinct minister by custom, tho' subject in some respects to the mother-church. In some places they are endowed with lands or tythes, and in other places supported by voluntary contributions. 4. Free chapels, such as were founded by the kings of England, free from all episcopal jurisdiction, and to be visited only by the founder and his successors; the visitation is made by the lord

lord chancellor. The king likewiſe may licenſe any ſubject to build and endow a chapel, and, by letters patent, exempt it from the viſitation of the ordinary. 5. Chapels in univerſities belonging to particular colleges, which, tho' conſecrated, and though ſacraments are adminiſtred there, are not liable to the viſitation of the biſhop. 6. Domeſtic chapels, built by gentlemen for the private ſervice of God in their own families. Theſe may be erected without the leave of the biſhop, and need not be conſecrated, tho' they were antiently: they are not ſubject to the viſitation of the ordinary.

CHAPEL is alſo a name given to a printer's work-houſe, in which ſenſe they ſay, the laws of the chapel, the ſecrets of the chapel.

Knights of the CHAPEL, called alſo poor knights of Windſor, were inſtituted by Henry VIII. in his teſtament. Their number was at firſt thirteen, but has been ſince augmented to twenty-ſix. They aſſiſt in the funeral ſervices of the kings of England: they are ſubject to the office of the canons of Windſor, and live on penſions aſſigned them by the order of the garter. They bear a blue or red cloke, with the arms of St. George on the left ſhoulder.

CHAPELET, in the manege, a couple of ſtirrup-leathers, mounted each of them with a ſtirrup, and joined at top in a ſort of leather buckle, called the head of the chapelet, by which they are made faſt to the pummel of the ſaddle, after being adjuſted to the rider's length and bore. They are uſed both to avoid the trouble of taking up or letting down the ſtirrups, every time that the gentleman mounts on a different horſe and ſaddle, and to ſupply the place of the academy ſaddles, which have no ſtirrups to them.

CHAPELRY, the precinct belonging to a chapel, in contradiſtinction from a pariſh, or that belonging to a church. See the article PARISH.

CHAPERON, a covering for the head, formerly worn both by men and women. Hence it became the name of thoſe little ſhields containing death's heads, and other funeral devices, placed upon the foreheads of horſes that drew hearſes at pompous funerals. The chaperon is now the badge of a doctor or licentiate in divinity, law, or phyſic, in France, and worn by them on the left arm, being of the ſame form with that which in antient days was worn on the head.

CHAPERON is likewiſe the name that diſtinguiſhed two factions in France. The firſt aroſe in the reign of king John in 1358, and the ſecond under Charles VI. in 1413.

CHAPERON *of a bit mouth*, ſignifies the end of the bit that joins to the branch juſt by the banquet. In ſcatch mouths, the chaperon is round, in others it is oval.

CHAPETONS, *chapetones*, a name given by the Spaniards to the european inhabitants of America, in contradiſtinction from the creols, or thoſe born there.

CHAPITERS, in architecture, the ſame with capitals. See the article CAPITAL.

CHAPITERS, in law, formerly ſignified a ſummary of ſuch matters as were inquired of, or preſented before juſtices in eyre, juſtices of aſſize or of the peace, in their ſeſſions.

Chapiters, at this time, denote ſuch articles as are delivered by the mouth of the juſtice in his charge to the inqueſt. Bracton and Breton ſay, that they were after an exhortation from the juſtices, firſt read in open court, and then delivered in writing to the grand inqueſt, who were to anſwer upon oath to all the particular articles. In ſome courts-leet in ſeveral parts of England, it is uſual for the ſtewards to deliver their charge in writing to the juries ſworn to inquire of offences.

CHAPLAIN, an eccleſiaſtic who officiates in a chapel. See the article CHAPEL.

The king of Great-Britain hath forty-eight chaplains in ordinary, uſually eminent doctors in divinity, who wait four each month, preach in the chapel, read the ſervice to the family, and to the king in his private oratory, and ſay grace in the abſence of the clerk of the cloſet. Beſides, there are twenty-four chaplains at Whitehall, fellows of Oxford or Cambridge, who preach in their turns, and are allowed thirty pounds *per annum* each. According to a ſtatute of Hen. VIII. the perſons veſted with a power of retaining chaplains, together with the number each is allowed to qualify, is as follows: An archbiſhop, eight; a duke or biſhop, ſix; marqueſs or earl, five; viſcount, four; baron, knight of the garter, or lord chancellor, three; a dutcheſs, marchioneſs, counteſs, baroneſs, the treaſurer and comptroller of the king's houſe, clerk of the cloſet, the king's ſecretary, dean of the chapel, almoner and maſter of the rolls, each of them two; chief juſtice of the king's bench, and warden of

of the cinque ports, each one. All these chaplains may purchase a licence or dispensation, and take two benefices with cure of souls. A chaplain must be retained by letters testimonial under hand and seal; for it is not sufficient that he serve as chaplain in the family.

CHAPLAINS *of the pope*, are the auditors or judges of causes in the sacred palace. They were originally as many as the pope pleased to summon, but Sixtus IV. reduced their number to twelve. It is from their decrees that the body of decretals is formed.

CHAPLAIN *of the order of Malta*, otherwise called diaco, and clerk conventual, the second class of the order of Malta. The knights make the first rank.

CHAPLET, a string of beads used by the roman catholics to count the number of their prayers. The invention of it is ascribed to Peter the hermit, who probably learned it of the Turks, as they owe it to the East-Indians.

Chaplets are sometimes called pater-nosters, and are made of coral, of diamonds, of wood, &c. The common chaplet contains fifty ave-marias, and five pater-nosters. There is also a chaplet of our Saviour, consisting of thirty-three beads, in honour of his thirty-three years living on earth, instituted by father Michael the Camaldulian. Dandini observes, that the mahometan chaplets differ from those of the roman catholics, in that they are all of the same bigness, and have not that distinction into decads, though they consist of sixty beads. The devotees of the sect of Fo in China, always wear a chaplet about their necks, and round their arms, consisting of 100 middle-sized beads, and eight considerably larger; and all the while they are tumbling over these beads, they repeat *na-mo-o mi-to fo*. See ROSARY.

CHAPLET, in architecture, a small ornament carved into round beads, pearls, olives, and pater-nosters, as is frequently done in baguettes. See BAGUETTE.

CHAPPAR, a courier of the king of Persia, who carries dispatches between the court and the provinces. When he sets out, the master of the horse furnishes him with a single horse, and when that is weary, he dismounts the first horseman he meets, and takes his horse. There is no pardon for a traveller that should refuse to let a chappar have his horse, nor for any other that should deny him the best horse of his stable.

CHAPPE', in heraldry, the dividing an escutcheon by lines drawn from the center of the upper edge to the angles below, into three parts, the sections on the sides being of a different metal or colour from the rest.

CHAPPEL, or CHAPEL. See CHAPEL.

CHAPPEL in the FRITH, a market-town of Derbyshire, about twenty-six miles north-west of Derby: west longitude 1° 50', north latitude 53° 22'.

CHAPTER, *capitulum*, in ecclesiastical policy, a society or community of ecclesiastics belonging to a cathedral or collegiate church.

It was in the eighth century that the body of canons began to be called a chapter. The chapter of the canons of a cathedral, were a standing council to the bishop, and during the vacancy of the see, had the jurisdiction of the diocese. In the earlier ages, the bishop was head of the chapter: afterwards abbots and other dignitaries, as deans, provosts, treasurers, &c. were preferred to this distinction. The deans and chapters had the privilege of chusing the bishops in England, but Henry VIII. got this power vested in the crown: and as the same prince expelled the monks from the cathedrals, and placed secular canons in their room, those he thus regulated were called deans and chapters of the new foundation: such are Canterbury, Winchester, Ely, Carlisle, &c.

CHAPTER is also applied to assemblies held by religious and military orders for regulating their affairs, and also to the hall where such assemblies are convoked. In monasteries, the chapter is usually in the middle of the cloisters.

CHAPTER, in matters of literature, a division in a book, for keeping the subject treated of more clear and distinct. St. Augustine compares them to inns, inasmuch as they refresh the reader as these the traveller.

The three CHAPTERS, a famous phrase in ecclesiastical history, signifying a volume by Theodoret, an adherent of Nestorius, against St. Cyril. These chapters consist of a letter of Ibas, priest of Edessa, to Maris bishop of Persia; of extracts from the works of Diodorus of Tarsus, and Theodore of Mopsuestia, wherein the same doctrines were taught that were contended for by Nestorius; and of two pieces of Theodoret, the one against the council of Ephesus, the other against the anathemas of St. Cyril. The three chapters

ters have been condemned by various councils, and many popes.

CHAPTREL, in architecture, the same with impost. See the article IMPOST.

CHAR, or CHARRE, in ichthyology. See the article CHARRE.

CHARA, in botany, a genus of plants belonging to the class of the cryptogamia-algarum, without either flower-petals, or pericarpium, having a single ovato-oblong seed. Linnæus distinguishes four species of the chara, but there are no medicinal virtues ascribed to either of them.

CARABON, a sea-port town on the northern coast of the island of Java, in the indian ocean, situated 130 miles east of Batavia: east long. 108°, south lat. 6°.

CHARACTER, χαρακτηρ, in a general sense, denotes any mark whatever, serving to represent either things or ideas: thus letters are characters, types, or marks of certain sounds; words, of ideas, *&c.* See the article LETTER, *&c.*

Characters are of infinite advantage in almost all sciences, for conveying, in the most concise and expressive manner, an author's meaning: however, such a multiplicity of them, as we find used by different nations, must be allowed to be a very considerable obstacle to the improvement of knowledge; several authors have therefore attempted to establish characters that should be universal, and which each nation might read in their own language, and, consequently, which should be real, not nominal, or arbitrary, but expressive of things themselves; thus, the universal character for a horse, would be read by an Englishman *horse*, by a Frenchman *cheval*, by the Latins *equus*, by the Greeks ἵππος, *&c.*

The first who made any attempts for an universal character in Europe, were bishop Wilkins and Dalgarme: Mr. Leibnitz also turned his thoughts that way; and Mr. Lodwic, in the Philosophical Transactions, gives a plan of an universal character, which was to contain an enumeration of all such single sounds as are used in any language. The advantages he proposed to derive from this character were, that people would be enabled to pronounce truly and readily any language that should be pronounced in their hearing; and lastly, that this character would serve as a standard to perpetuate the bounds of every language whatsoever.

In the Journal Literaire of 1720, there is a project for an universal character, by means of the common arabic or numeral figures: the combinations of these nine, says the author, is sufficient to express distinctly, an incredible quantity of numbers, much more than we shall need terms to signify our actions, goods, evils, duties, passions, *&c.* and the arabic figures having already all the universality required, the trouble is already saved of framing and learning any new character. But here the difficulty is not so great to invent the most simple, easy, and convenient characters, as to engage different nations to use these characters.

Literal characters may be divided, with respect to the nations among whom they have been invented, into greek characters, roman characters, hebrew characters, *&c.* See the article ALPHABET.

The latin character, now used through all Europe, was formed from the greek, as the greek was from the phœnician, and the phœnician, as well as the chaldee, syriac, and arabic characters, were formed from the antient hebrew, which subsisted till the babylonish captivity; for after that event, the character of the Assyrians, which is the square hebrew now in use, prevailed, the antient being only found on some hebrew medals, commonly called samaritan medals. It was in 1091 that the gothic characters, invented by Ulfilas, were abolished, and the latin ones established in their room. See the article LETTER.

Medallists observe, that the greek character, consisting only of majuscule letters, has preserved its uniformity on all medals, as low as the time of Gallienus; from that time it appears somewhat weaker and rounder: from the time of Constantine to Michael we find only latin characters; and after Michael the greek characters recommence; but from that time they begin to alter with the language, which was a mixture of greek and latin. The latin medals preserve both their character and language as low as the translation of the seat of the empire to Constantinople: towards the time of Decius the character began to lose its roundness and beauty; some time after it retrieved, and subsisted tolerably till the time of Justin, when it degenerated gradually into the gothic. The rounder, then, and better formed a character is,

upon

upon a medal, the fairer pretence it has to antiquity.

Character is alſo uſed, in ſeveral of the arts, for a ſymbol, contrived for the more conciſe and immediate conveyance of the knowledge of things. We ſhall here ſubjoin the principal of them.

Characters *uſed in algebra and arithmetic.*

a, b, c, d, &c. the firſt letters of the alphabet, are the characters of given quantities; and z, y, x, &c. the laſt letters, are the characters of quantities ſought. See the article Algebra.

m, n, r, s, t, &c. are characters of indeterminate exponents both of ratios and of powers: thus, x^m, y^n, z^r, &c. denote undetermined powers of different kinds; mx, ny, rz, different multiples or ſubmultiples of the quantities x, y, z, according as m, n, r, are either whole numbers or fractions.

$+$ is the ſign of the real exiſtence of the quantity it ſtands before, and is called an affirmative or poſitive ſign. It is alſo the mark of addition, and is read *plus*, or more; thus, $a+b$, or $3+5$, implies a is added to b, or 3 added to 5.

$-$ before a ſingle quantity is the ſign of negation or negative exiſtence, ſhewing the quantity to which it is prefixed to be leſs than nothing. But between quantities it is the ſign of ſubtraction, and is read *minus*, or leſs; thus, $a-b$, or $8-4$, implies b ſubtracted from a, or 8 after 4 has been ſubtracted.

$=$ is the ſign of equality, though Des Cartes and ſome others uſe this mark ∞; thus, $a=b$ ſignifies that a is equal to b. Wolfius, and ſome others, uſe the mark $=$ for the identity of ratios.

$\times$ is the ſign of multiplication, ſhewing that the quantities on each ſide the ſame are to be multiplied by one another, as $a\times b$ is to be read a multiplied into b; 4×8, the product of 4 multiplied into 8. Wolfius and others make the ſign of multiplication a dot between the two factors; thus 5.4 ſignifies the product of 5 and 4. In algebra the ſign is commonly omitted, and the two quantities put together; thus $b\,d$ expreſſes the product of b and d. When one or both of the factors are compounded of ſeveral letters, they are diſtinguiſhed by a line drawn over them; thus, the factum of $a+b-c$ into d, is wrote $d\times\overline{a+b-c}$. Leibnitz, Wolfius, and others diſtinguiſh the compound factors by including them in a parentheſis thus $(a+b-c)\,d$.

$\div$ is the ſign of diviſion; thus, $a\div b$ denotes the quantity a to be divided by b. In algebra the quotient is often expreſſed like a fraction, thus, $\frac{a}{b}$ denotes the quotient of a divided by b. Wolfius makes the ſign of diviſion two dots; thus $12:4$ denotes the quotient of 12 divided by $4=3$. If either the diviſor or dividend, or both, be compoſed of ſeveral letters, for example, $a+b\div c$, inſtead of writing the quotient like a fraction, $\frac{a+b}{c}$, Wolfius includes the compound quantities in a parentheſis, thus $(a+b):c$.

⊚ is the character of involution; ⩊ is the character of evolution.

⊐ or ⊏ are ſigns of majority; thus, a ⊐ b expreſſes that a is greater than b.

⊏ or ⊐ are ſigns of minority; and when we would denote that a is leſs than b, we write a ⊏ b, or a ⊐ b.

∽ is the character of ſimilitude uſed by Wolfius, Leibnitz, and others: it is uſed in other authors for the difference between two quantities while it is unknown which is the greater of the two.

$::$ is the mark of geometrical proportion disjunct, and is uſually placed between two pair of equal ratios, as, $3:6::4:8$, ſhews that 3 is to 6 as 4 is to 8.

$\div\!\div$ the mark of geometrical proportion continued, implies the ratio to be ſtill carried on without interruption, as 2, 4, 8, 16, 32, 64 $\div\!\div$ are in the ſame uninterrupted proportion.

$\surd$ is the character of radicality, and ſhews, according to the index of the power that is ſet over it, or after it, that the ſquare, cube, or other root is extracted, or to be extracted; thus, $\surd 16$, or $\surd^2 16$ or $\surd(2)\,16$, is the ſquare root of 16. $\sqrt[3]{25}$, the cube root of 25, &c. This character ſometimes affects ſeveral quantities, diſtinguiſhed by a line drawn over them thus, $\sqrt{b+d}$ denotes the ſum of the ſquare roots of b and d. When any term, or terms, of an equation are wanting, they are generally ſupplied by one or more aſteriſms: thus in the equation

$$\left.\begin{matrix} y^2+py+\frac{1}{4}p^2+q \\ -py-\frac{1}{2}p^2 \end{matrix}\right\}=0,$$

the term $\pm py$ vaniſhing, is marked with an aſteriſm, as $y^2 * -\frac{1}{4}p^2+q$.

CHARACTERS *used in astronomy.*

Characters of the planets.

♄ Saturn	☉ Sun	☾ Moon
♃ Jupiter	♀ Venus	⊕ Earth
♂ Mars	☿ Mercury.	

Of the signs.

♈ Aries	♌ Leo	♐ Sagittarius
♉ Taurus	♍ Virgo	♑ Capricornus
♊ Gemini	♎ Libra	♒ Aquarius
♋ Cancer	♏ Scorpio	♓ Pisces.

Of the aspects.

☌ or S Conjunction	△ Trine
SS Semisextile	Bq Biquintile
⚹ Sextile	Vc Quincunx
Q Quintile	☍ Opposition
□ Quartile	☊ Dragon's head
Td Tredecile	☋ Dragon's tail.

Of time.

A. M. *ante meridiem*, before the sun comes upon the meridian.

O. or N. noon.

P. M. *post meridiem*, when the sun is past the meridian.

CHARACTERS *in commerce.*

D° *ditto*, the same	q^rs quarters
N° *numero*, or number	S or *s* shillings
	d pence or deniers
F° *folio*, or page	℔ pound weight
R° *recto* } *folio*	℘ , *per*, or by, as ℘ *ann.* by the year,
V° *vero* }	℘ *cent.*
£. or *l.* pounds sterling	Rx rixdollar
C or ⊕ hundred weight, or 112 pounds	D^d ducat
	P. S. postscript, &c.

CHARACTERS *in chemistry.*

♁ antimony	♃ jupiter, tin
A aqua fortis	♄ saturn, lead
R aqua regia	☿ mercury
MB balneum mariæ	sublimate
calx viva	precipitate
caput mortuum	nitre
♀ venus, copper	⚹ sal armoniac
⊖ common salt	vitriol
distillation	sulphur
☉ sol, gold	spirit of wine
C C hart's horn	or S. V. R. spirit of wine rectified
C C C hart's horn calcined	☾ luna, silver
♂ mars, iron	tartar
f. f. f. stratum super stratum.	*aaa* amalgamate.

There are many more characters in chemistry, but these are the most usual.

CHARACTERS *in geometry and trigonometry.*

‖ The character of parallelism	□ square
△ triangle	▭ rectangle
	☉ circle
equiangular, or similar	∠ an angle
	∟ right angle
equilateral	⊥ perpendicular

° denotes a degree; thus 45°, implies 45 degrees. ′ a minute; thus, 50′, is 50 minutes. ″, ‴, ⁗, denote seconds, thirds, and fourths: and the same characters are used where the progressions are by tens, as it is here by sixties.

CHARACTERS *in grammar, rhetoric, poetry, &c.*

( ) parenthesis	SS. T. D. doctor in divinity
[ ] crotchet	
- hyphen	V. D. M. minister of the word of God
’ apostrophe	
′ emphasis or accent	
˘ breve	LL. D. doctor of laws
¨ dialysis	J. V. D. doctor of civil and canon law
^ caret and circumflex	
“ quotation	M. D. doctor in physic
† ‡ and * references	
§ section or division	A. M. master of arts
¶ paragraph	A. B. bachelor of arts

F. R. S. fellow of the royal society.

For the other characters used in grammar, see the articles COMMA, COLON, SEMICOLON, &c.

CHARACTERS *used in the arithmetic of infinites.*

. the character of an infinitesimal or fluxion; thus, $\dot{x}$, $\dot{y}$, &c. express the fluxions or differentials of the variable x and y; and two, three, or more dots denote second, third, or higher fluxions. M. Leibnitz, instead of a dot, prefixes the letter d to the variable quantity, in order to avoid the confusion of dots in the differencing of differentials. See the article CALCULUS DIFFERENTIALIS.

CHARACTERS *among the antient lawyers, and in antient inscriptions.*

§ paragraphs	P. P. pater patriæ
ff digests	C. code
Scto senatus consulto	C. C. consules
	T. titulus
E. extra	P. P. D. D. propria pecunia dedicavit
S. P. Q. R. senatus populusque romanus	D. D. M. dono dedit monumentum

CHARACTERS *in medicine and pharmacy.*

℞ recipe	ß or *fs*, half of any thing
ā, *ā ā*, or ana, of each alike	cong. congius, a gallon
℔ a pound or a pint	
℥ an ounce	coch. cochleare, a spoonful
ʒ a drachm	
℈ a scruple	M. manipulus, a handful
gr. grains	

P. a pugil
P. Æ. equal quantities
S. A. according to art
q. s. a sufficient quantity
q. pl. as much as you please
P. P. pulvis patrum, the jesuit's bark.

Characters used in music, and of musical notes, with their proportions, are as follow.

character of a large 8
a long 4
a breve 2
a semibreve 1
minim $\frac{1}{2}$
crotchet $\frac{1}{4}$
quaver $\frac{1}{8}$
semiquaver $\frac{1}{16}$
demisemiquaver $\frac{1}{32}$

♯ character of a sharp note: this character at the beginning of a line, or space, denotes that all the notes in that line are to be taken a semitone higher, than in the natural series; and the same affects all the octaves above or below, though not marked: but when prefixed to any particular note, it shews that note alone to be taken a semitone higher than it would be without such character.

♭ or *b*, character of a flat note: this is the contrary to the other above, that is, a semitone lower.

♮ character of a natural note: when in a line or series of artificial notes, marked at the beginning ♭ or ♯, the natural note happens to be required, it is denoted by this character.

𝄞 character of the treble cliff.

𝄡 character of the mean cliff.

𝄢 bass cliff.

2, or $\frac{2}{4}$, or $\frac{4}{8}$, characters of common duple time; signifying the measure of two crotchets to be equal to two notes, of which four make a semibreve.

C ¢ Ꞓ characters that distinguish the movements of common time, the first implying slow, the second quick, and the third very quick.

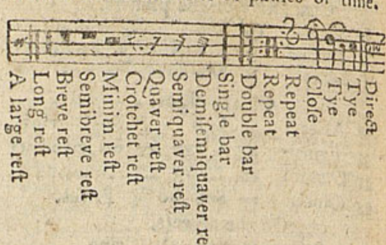
$\frac{3}{2}$, $\frac{3}{1}$, $\frac{3}{4}$, $\frac{3}{8}$, $\frac{3}{16}$, characters of simple triple time, the measure of which is equal to three semibreves, or to three minims.

$\frac{6}{4}$, or $\frac{6}{8}$, or $\frac{6}{16}$, characters of mixed triple time, where the measure is equal to six crotchets or six quavers.

$\frac{9}{4}$, or $\frac{9}{8}$, or $\frac{9}{16}$, or $\frac{9}{1}$, or $\frac{9}{2}$, characters of compound triple time.

$\frac{12}{4}$, $\frac{12}{8}$, $\frac{12}{16}$, or $\frac{12}{1}$, or $\frac{12}{2}$, characters of that species of triple time called the measure of twelve times. See the article Triple.

Characters of the rests or pauses of time.



Numeral Characters used to express numbers, are either letters or figures. The arabic character, called also the common one, because it is used almost throughout Europe in all sorts of calculations, consists of these ten digits, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

The roman numeral character consists of seven majuscule letters of the roman alphabet, *viz.* I, V, X, L, C, D, M. The I denotes one, V five, X ten, L fifty, C a hundred, D five hundred, and M a thousand.

The I repeated twice makes two, II; thrice, three, III; four is expressed thus IV, as I before V or X takes an unit from the number expressed by these letters. To express six an I is added to a V, VI; for seven, two, VII; and for eight, three, VIII: nine is expressed by an I before X, thus IX.

The same remark may be made of the X before L or C, except that the diminution is by tens; thus, XL denotes forty, XC ninety, and LX sixty. The C before D or M diminishes each by a hundred.

The number five hundred is sometimes expressed by an I before a C inverted, thus, IƆ; and instead of M, which signifies a thousand, an I is sometimes used between two C's, the one direct, and the other inverted, thus CIƆ. The addition of C and Ɔ before or after, raises CIƆ by tens, thus, CCIƆƆ, expresses ten thousand, CCCIƆƆƆ, a hundred thousand. The Romans also expressed any number of thousands by a line drawn over any numeral less than a thousand; thus, $\overline{\text{V}}$ denotes five thousand, $\overline{\text{LX}}$ sixty thousand: so likewise $\overline{\text{M}}$ is one million, $\overline{\text{MM}}$ is two millions, &c.

Some modern writers have admitted variations in this method of notation; thus we find IIX expressing eight, IICIX eighty-

eighty-nine, ⅄ or ∀ denoting IↃↃ, and ∞ or ⴲ standing for CIↃ; whence Ψ Ψ ten thousand, Ψ Ψ twenty thousand.

The Greeks had three ways of expressing numbers: first, every letter according to its place in the alphabet, denoted a number, from α, one, to ω, twenty-four. 2. The alphabet was divided into eight units, α one, β two, γ three, &c. into eight tens, ι ten, κ twenty, λ thirty, &c. and eight hundreds, ρ one hundred, σ two hundred, τ three hundred, &c. 3. I stood for one, Π (πέντε) five, Δ (δέκα) ten, H (Ἑκατὸν) a hundred, X (χίλια) a thousand, M (μυρία) ten thousand; and when the letter Π inclosed any of these, except I, it shewed the inclosed letter to be five times its value; as |Δ| fifty, |H| five hundred, |X| five thousand, |M| fifty thousand.

The hebrew numerals consisted of their alphabet divided into nine units; thus, א one, ב two, &c. nine tens; thus, י ten, כ twenty, &c. nine hundreds; thus, ק one hundred, ר two hundred, &c. and ך five hundred, ם six hundred, ן seven hundred, ף eight hundred, ץ nine hundred. They expressed thousands by the word אלף, with the other numerals prefixed to signify the number of thousands: thus, אלפים two thousand, גאלפים three thousand, &c.

French CHARACTER, used in the chamber of accounts, and by persons concerned in the management of the revenue, is, properly speaking, nothing else than the roman numerals, in letters that are not majuscule: thus, instead of expressing fifty-six by LVI, they denote it by smaller characters lvj.

CHARACTER, in natural history. See the article GENUS.

CHARACTERS, among printers. See the articles LETTER and CORRECTION.

CHARACTERS *upon tomb-stones.*

S. V. Siste viator, *i. e.* Stop traveller.

M. S. Memoriæ sacrum, *i. e.* Sacred to the memory.

D. M. Diis manibus.

I H S. Jesus.

X. P. a character found in the catacombs in Italy, about the meaning of which authors are not agreed. See CATACOMB.

CHARACTER, in epic and dramatic poetry, that which is peculiar in the manners of any person, and distinguishes him from all others.

The poetical character, says Mr. Bossu, is not properly any particular virtue or quality, but a composition of several which are mixed together, in a different degree, according to the necessity of the fable, and the unity of the action: there must be one, however, to reign over all the rest, and this must be found in some degree in every part. This first quality in Achilles is wrath, in Ulysses dissimulation, and in Æneas mildness. But as these characters cannot be alone, they must be accompanied with others to embellish them, as far as they are capable, either by hiding their defects, as in the anger of Achilles, which is palliated by extraordinary valour; or by making them center in some solid virtue, as in Ulysses, whose dissimulation makes a part of his prudence; and in Æneas, whose mildness is employed in a submission to the will of the gods. In the making up of which union, it is to be observed, the poets have joined together such qualities as are by nature the most compatible, valour with anger, piety with mildness, and prudence with dissimulation. The fable required prudence in Ulysses, and piety in Æneas; in this, therefore, the poets were not left to their choice: but Homer might have made Achilles a coward, without abating any thing from the justness of his fable; so that it was the necessity of adorning his character that obliged him to make him valiant: the character, then, of a hero in the epic poem is compounded of three sorts of qualities, the first essential to the fable; the second embellishments of the first; and valour, which sustains the other two, makes the third.

Unity of character is as necessary as the unity of the fable; for this purpose a person should be the same from the beginning to the end; not that he is always to betray the same sentiments or one passion, but that he should never speak nor act inconsistently with his fundamental character. For instance, the weak may sometimes fally into a warmth; and the breast of the passionate be calm; a change, which often introduces in the drama a very affecting variety: but if the natural disposition of the former was to be represented as boisterous, and that of the latter mild and soft, they would both act out of character, and contradict their persons.

True characters are such as we truly and really see in men, or may exist without any contradiction to nature: no man

 questions

queſtions but there have been men as generous and as good as Æneas, as paſſionate and as violent as Achilles, as prudent and wiſe as Ulyſſes, as impious and atheiſtical as Mezentius, and as amorous and paſſionate as Dido: all theſe characters, therefore, are true, and nothing but juſt imitations of nature. On the contrary, a character is falſe, when an author ſo feigns it, that one can ſee nothing like it in the order of nature, wherein he deſigns it ſhall ſtand: theſe characters ſhould be wholly excluded from a poem, becauſe tranſgreſſing the bounds of probability and reaſon, they meet with no belief from the readers. They are fictions of the poet's brain, not imitations of nature; and yet all poetry eſſentially conſiſts in an imitation of nature.

Character is alſo uſed by divines, eſpecially thoſe of the romiſh church, for an indelible mark which the ſacraments of baptiſm, confirmation, and ordination leave behind them, in thoſe who receive them.

Dr. Forbes, in Irenic. lib. ii. cap. 11. explains the ſenſe of the antients touching the indelible character in a man that is depoſed, by which he is diſtinguiſhed from other laymen: but to make this diſtinction, it is not neceſſary, there ſhould be any form impreſſed, but a tranſient act, that is long ago paſt, is ſufficient, *viz.* that he was once a perſon ordained. The character that remains in a depoſed perſon, is not the character of any preſent office or power, but only ſome footſtep or mark of an honour that is paſt, and of a power that he once had; by which footſtep he is diſtinguiſhed from other laymen who never were ordained; and may, after a ſufficient penance performed, if he be found fit, and the advantage of the church ſo require, be reſtored again without a new ordination.

CHARACTERISTIC, in a general ſenſe, a peculiar mark, or character, whereby a perſon or thing is diſtinguiſhed from all others.

Grammarians uſe the term characteriſtic, in a more limited ſenſe, for the principal letter of a verb, preſerved through all its moods, and tenſes, derivatives and compounds: ſuch is the letter *w* in the word *brew*.

The characteriſtic letter is of moſt uſe in the formation of greek verbs, as being always the ſame in the correſponding tenſes of the ſame conjugation, that is, in thoſe formed from the preſent, future, or preterit. See the articles Verb, Mood, Tense, &c.

Characteristic *of a logarithm*, the ſame with its index or exponent.

Characteristic *of a curve*, in the higher geometry, a rectilinear right angled triangle, whoſe hypothenuſe makes a part of the curve, not ſenſibly different from a right line.

It is ſo called, becauſe curve lines are uſed to be diſtinguiſhed hereby.

CHARADRIUS, in ornithology, a genus of birds of the order of the ſcolopaces, the characters of which are theſe: the beak is ſhort, of a cylindrical or rounded ſhape, and obtuſe at the extremity; and there are only three toes on each foot, which are connected together.

To this genus belong, 1. The plover variegated with black and yellow. 2. The green plover. 3. The morinellus of authors. 4. The hiaticula, or ſea-lark. 5. The lahul, or lapland-plover, with a reddiſh-brown belly, the upper part of the head blackiſh, and the neck, back, wings, and tail grey, variegated with ſpots of red.

CHARAG, the tribute which the chriſtians and jews pay to the grand ſignior.

It is generally a piſtole a head, and ſometimes four crowns. The chriſtians who come to travel in Turky, pay it at the firſt town they arrive at: others begin to pay it at nine or ſixteen years old; but women, prieſts, rabbins, and religious, are exempted.

CHARAX, in ichthyology, the name by which ſeveral authors call the cyprinus, with twenty rays in the back-fin, and with the ſide-line ſtraight.

CHARBON, in the manege, that little black ſpot or mark which remains after a large ſpot in the cavity of the corner teeth of a horſe: about the ſeventh or eighth year, when the cavity fills up, the tooth being ſmooth and equal, it is ſaid to be raſed.

CHARCAS, the ſouthern diviſion of Peru, in South America, remarkable for the ſilver-mines of Potoſi.

CHARCOAL, a kind of fuel, conſiſting of half-burnt wood, much uſed by artificers of different profeſſions; and that not only as fuel, but for poliſhing braſs or copper plates, &c.

The beſt charcoal for common uſes is that made of oak; but in the manufacture of gunpowder they commonly uſe charcoal made of alder. See Gunpowder.

Charcoal, by reaſon of the humidity of the

the wood being moftly diffipated and exhaled in the fire, wherein it is prepared, makes a ftrong clear fire without fmoke. The Philofophical Tranfactions give an account of fome microfcopical obfervations upon charcoal; which is found to contain a furprizing number of pores, difpofed in order, and traverfing lengthwife: in a piece, the 18th part of an inch long, Dr. Hook reckoned 150 pores; whence he concludes, that in one of an inch diameter there are not lefs than 5,724,000 pores, fo that there is no piece of charcoal, how long foever, but may be eafily blown through. If a piece be broke pretty fhort, it may be feen through by a microfcope. It is to this prodigious number of pores, that the blacknefs of charcoal is owing; for the rays of light, ftriking on the charcoal, are received and abforbed in its pores, inftead of being reflected; whence the body muft of neceffity appear black; blacknefs in a body being no more than want of reflection.

The vapour of charcoal or fea-coal, in a clofe room, is fatal. It is the more dangerous, becaufe it comes without any ill fmell, and fteals on by little and little, caufing only a faintnefs, without any manifeft ftrangling.

The effect, no doubt, is wrought by the infpiffation of the air; or rather by deftroying its elaftic power.

CHARDS *of artichoaks*, in gardening, the leaves of fair artichoak-plants, tied and wrapped up in ftraw all over, but the top, during the autumn and winter; this makes them grow white, and lofe fome of their bitternefs.

CHARDS *of beets*, white beets covered over with dry dung, during the winter feafon, when they produce large tops, with a downy cotton fhoot, which is the true chard to be ufed in pottages, intermeffes, &c.

CHARENTE, a river of France, which, arifing in the Limofin, runs weftward by Angoulefme and Saintes, falling into the bay of Bifcay, oppofite to the ifle of Oleron.

CHARENTON, the name of two towns in France, the one upon the Marmaude, in the Bourbonois; the other in the ifle of France, near the confluence of the Marne with the Seine, about three miles fouth-eaft of Paris: eaft longitude 2° 30′, and north latitude 48° 45′.

CHARGE, in gunnery, the quantity of gunpowder and ball, wherewith a gun is loaded for execution.

The rule for charging large pieces, in war, are, that the piece be firft cleaned or fcoured within fide; that the proper quantity of powder be next driven in, and rammed down: care however being taken, that the powder, in ramming, be not bruifed, becaufe that weakens its effect; that a little quantity of paper, hay, lint, or the like, be rammed over it; and that the ball or fhot be intruded.

If the ball be red hot, a tampion, or trencher of green wood, is to be driven in before it.

The weight of the powder neceffary for a charge is commonly in a fubduple proportion to that of the ball. See the articles CANNON, GUN, SHOT, CALIBER, PROJECTILES, &c.

CHARGE, in heraldry, is applied to the figures reprefented on the efcutcheon, by which the bearers are diftinguifhed from one another; and it is to be obferved, that too many charges are not fo honourable as fewer.

CHARGE, in the manege, a preparation, or ointment, of the confiftence of a thick decoction, applied to the fhoulder-plaits, inflammations, and fprains, of horfes: the parts affected are rubbed and chaffed with this compofition, after which they fhould be covered with finking paper.

This unguent is made up of honey, oil, greafe, turpentine, and fometimes lees of wine, and other matters.

Charges are outward applications to the bodies of horfes, &c. and are prepared divers ways, according to the nature of the difeafe.

CHARGE, or OVERCHARGE, in painting, an exaggerated reprefentation of any perfon, wherein the likenefs is preferved, but withal ridiculed. Few painters have the genius to fucceed in thefe charges: the method is, to pick out and heighten fomething amifs in the face, whether by way of defect or redundancy; thus, if nature has given a man a nofe a little larger than ordinary, the painter falls in with her, and makes the nofe extravagantly long; and fo in other places.

CHARGE *of lead* denotes a quantity of thirty-fix pigs. See the article PIG.

CHARGED, in heraldry. A fhield carrying fome imprefs or figure, is faid to be charged therewith; fo alfo when one bearing, or charge, has another figure added upon it, it is properly faid to be charged.

CHARGED CYLINDER, in the art of war, is

is that part of the chace of the gun where the powder and ball are contained.

CHARIENTISM, χαριεντισμός, in rhetoric, a figure wherein a taunting expression is softened by a jest.

CHARIOT, a half coach, having only a seat behind, with a stool, at most, before. See the articles COACH and CALASH.

The chariots of the antients, chiefly used in war, were called by the several names *bigæ*, *trigæ*, &c. according to the number of horses applied to draw them. By this sort of martial machine may be understood either cart, coach, chariot, chaise, or any other vehicle moving on wheels: these were not only contrived for service, but ornament, being richly embossed with gold and other metals, and likewise adorned with curious hangings. Every chariot carried two men, who were probably the warrior and the charioteer; and we read of several men of note and valour employed in driving the chariot. When the warriors came to encounter in close fight, they alighted out of the chariot, and fought on foot; but when they were weary, which often happened, by reason of their armour, they retired into their chariot, and thence annoyed their enemies with darts and missive weapons. These chariots were made so strong, that they lasted for several generations.

Besides this sort, we find frequent mention of the *currus falcati*, or those chariots armed with hooks, or scythes, with which whole ranks of soldiers were cut off together, if they had not the art of avoiding the danger; these were not only used by the Persians, Syrians, Egyptians, &c. but we find them among our british ancestors. The descriptions which the antients give us of these chariots, is much after the following manner: the beam to which the horses were fastened, was armed with pikes, having iron points to them, which projected forwards; the yokes of the horses had likewise two long points of three cubits; to the axle tree were also fixed bowsprits, armed at the extremities with scythes, which tore every thing they met with to pieces: the driver's seat was a kind of little tower, made of very solid wood, raised breast high; the charioteer was armed all over, and covered with iron. These chariots were sometimes so large as to hold several men, well armed, who fought with darts and arrows.

Triumphal CHARIOT was one of the principal ornaments of the roman celebration of a victory. See the article TRIUMPH.

The roman triumphal chariot was generally made of ivory, round like a tower, or rather of a cylindrical figure; it was sometimes gilt at the top, and ornamented with crowns; and, to represent a victory more naturally, they used to stain it with blood. It was usually drawn by four white horses, but oftentimes by lions, elephants, tygers, bears, leopards, dogs, &c.

Sailing CHARIOT. Maurice of Nassau, prince of Orange, who made a considerable figure in Holland against the Spaniards, had a chariot, which, instead of horses, was driven by the wind.

CHARISIA, in heathen antiquity, a nocturnal festival, kept in honour of the graces, and consisting chiefly of dancing; only that sweet-meats, called likewise charisia, were distributed among those present.

CHARISTIA, a festival of the antient Romans, celebrated in the month of February, wherein the relations by blood and marriage met, in order to preserve a good correspondence; and that, if there happened to be any difference among them, it might be the more easily accommodated, by the good humour and mirth of the entertainment.

CHARISTICARY, among the Greeks, a kind of donatary, or commendatary, who enjoyed the revenue of an hospital, or monastery, without being accountable to any person. See COMMENDAM and ABBOT.

CHARITATIVE *aid or subsidy*, in the canon law, a moderate allowance which a council grants a bishop, upon any urgent occasion, as when his revenues will not bear his expences to a council, &c.

CHARITY, among divines, one of the three grand theological virtues, consisting in the love of God and of our neighbour, or the habit and disposition of loving God with all our heart, and our neighbour as ourselves.

CHARITY, among moralists, is used for the effect of a moral virtue, and consists in supplying the necessities of others, whether with money, counsel, assistance, or the like.

CHARITY *of our lady*, in church-history, a religious order in France, which, though charity was the principal motive of their union, grew, in length of time, so disorderly and irregular, that their order dwindled, and at last became extinct.

There is still at Paris a religious order of women, called nuns hospitallers of the charity

charity of our lady. The religious of this hospital were by vow obliged to administer to the necessities of the poor and the sick, but those only women.

CHARITY *of St. Hippolitus*, a religious congregation founded, about the end of the XVIth century, by one Bernardin Alvarez, a Mexican, in honour of St. Hippolitus the martyr, patron of the city of Mexico; and approved by pope Gregory XIII.

CHARITY-SCHOOLS, are schools erected and maintained by various parishes, by the voluntary contributions of the inhabitants, for teaching poor children to read, write, and other necessary parts of education. In most charity-schools the children are likewise cloathed and put out to trades, services, *&c.* on the same charitable foundation.

The charity-schools which have been erected of late years in London, are the greatest instance of public spirit the age has produced; but indeed when we consider how long this sort of beneficence has been on foot, we must acknowledge it is rather from the good management of those institutions, than from the number and value of the benefactions to them, that they make so great a figure: one would almost think it impossible that in the year 1711, being fourteen years from the first institution, there should not have been five thousand pounds, bestowed in gifts this way, nor sixteen hundred children, including males and females, put out to methods of industry.

Of late, indeed, these charities have increased, and there are now few parishes in and about London, without their charity-schools; besides the vast number of them spread throughout the most considerable towns of England and Wales, and the numerous institutions of that kind all over Scotland.

CHARKING, or CHARRING, the making of charcoal. See CHARCOAL.

CHARLATAN, or CHARLETAN, an empiric, or quack, who retails his medicines on a public stage, and draws the people about him with his buffooneries, feats of activity, *&c.* See the article EMPIRIC.

CHARLEMONT, a town of the province of Namur, in the austrian Netherlands, about eighteen miles south of Namur: east longitude 4° 40′, and north latitude 50° 10′.

CHARLEMONT is also the name of a town of Ireland, situated on the river Blackwater, in the county of Armagh, and province of Ulster, about six miles south-east of Dungannon; west longit. 6° 50′, and north lat. 50° 16′.

CHARLEROY, a strong town in the province of Namur, in the austrian Netherlands, situated on the river Sambre, about nineteen miles west of Namur: east longitude 4° 20′, and north latitude 50° 30′.

CHARLES's-CAPE, a promontory of Virginia, in north America, forming the northern head-land of the streight that enters the bay of Cheasepeak.

CHARLES's-CAPE is also the name of a head-land on the south-west part of the streight entering into Hudson's bay.

CHARLES's-FORT, a fortress in the county of Cork, and province of Munster, in Ireland, situated at the mouth of Kinsale-harbour; west longitude 8° 20′, and north latitude 51° 21′.

CHARLES's-TOWN, the capital of South Carolina, in North America, situated on a peninsula formed by Ashley and Cooper rivers, the former of which is navigable for ships twenty miles above the town: west. long. 79°, and north lat. 32° 30′.

CHARLES's WAIN, in astronomy, seven stars in the constellation called ursa major, or the great bear. See the article URSA.

CHARLETON, an island at the bottom of Hudson's-bay, in North America, subject to Great Britain: west longitude 80°, and north latitude 52° 30′.

CHARLEVILLE, a town of Ireland, in the county of Cork, and province of Ulster, about thirty miles north of Cork; west long. 8° 38′, and north lat. 52° 13′.

CHARLEVILLE is also a town of Champaign, in France, about thirty-five miles north-west of Rheims; east long. 4° 35′, and north lat. 49° 45′.

CHARLOCK, the english name of a plant called by botanists rapistrum, or crambe. See the article CRAMBE.

Charlock is a very troublesome weed in corn-fields, where we find two species of it very common, *viz.* one with a yellow flower, and the other with a white one. To prevent its growth, the farmers mix horse-dung with their cow-dung used in manure, as the last is very apt to breed the charlock. When a field of barley is much infested with it, they mow it down in May, when in flower, taking care only to cut it so low as just to take off the tops of the leaves of the barley.

CHARM, a term derived from the latin *carmen*, a verse, and used to denote a magic

magic power, or spell, by which, with the assistance of the devil, sorcerers and witches were supposed to do wonderful things, far surpassing the power of nature. These things are now sufficiently exploded. See the articles MAGIC, CARMEN, AMULET, &c.

CHARNEL, or CHARNEL-HOUSE, a kind of portico, or gallery, usually in or near a church-yard, over which were antiently laid the bones of the dead, after the flesh was wholly consumed.

Charnel-houses are now usually adjoining to the church.

CHAROLLES, a town of Burgundy, in France, about thirty-seven miles south-west of Challons on the Saon; east longitude 4° 6′, and north lat. 46° 25′.

CHARRE, or GILT CHARRE, a truttaceous fish, called by many carpio, and reckoned by Artedi a species of salmon, less than a foot in length, with five rows of teeth in its palate.

Red CHARRE, is likewise a species of salmon, call d by authors umbla minor: it is much of the same size with the former, with the belly-fin red, and the under jaw a little longer than the upper one.

CHARRING. See CHARKING.

CHART, or SEA-CHART, an hydrographical map, or a projection of some parts of the earth's superficies in plano, for the use of navigators.

Charts differ very considerably from geographical or land maps, which are of no use in navigation Nor are sea charts all of the same kind, some being what we call plain-charts, others mercator-charts, and others globular-charts.

Plain CHARTS is a representation of some part of the superficies of the terraqueous globe, in which the meridians are supposed parallel to each other, the parallels of latitude at equal distances, and consequently the degrees of latitude and longitude every where equal to each other.

To construct a plain CHART, that shall contain from five degrees north, to five degrees south latitude; and from six degrees east, to six degrees west longitude; draw the meridian A B (plate XL. fig. 5.) and divide it into as many equal parts as there are degrees of latitude, which in this case are ten: at right angles to the meridian A B, draw the lines A D and B C, which will represent the parallels of five degrees north and five south latitude; and set off in each the number of degrees it must contain, in this case twelve, of the same length with the degrees of latitude.

Through the several divisions of the right lines A D and B C draw right lines, which will represent so many meridians in the chart. Through the several divisions of the line A B, draw right lines parallel to A D, or B C, which will represent so many parallels of latitude.

If you divide each of the right angles A, B, C, D, into eight equal parts, and draw lines from the angular points through the several divisions of the arches, they will represent the rumb-lines upon the chart, which are of use in finding the bearing of places from each other: but to avoid the confusion which attends a multiplicity of lines, the rumb lines from but one angle are delineated.

For the use of this chart, see the article NAVIGATION.

Mercator's CHART, is that where the meridians are straight lines parallel to each other, and equidistant; the parallels are also straight lines, and parallel to each other: but the distance between them increases from the equinoctial towards either pole, in the ratio of the secant of the latitude to the radius.

If the superficies of the terrestrial globe be supposed to be taken off, and extended on a plane, so as to make the meridians parallel to each other, and the degrees of longitude every where equal, it is easy to conceive that it must be productive of most notorious errors; for an island in latitude 60°, where the radius of the parallel is only equal to one half of the radius of the equator, will have its length from east to west distorted in a double ratio to what it was on the globe; that is, its length from east to west, in comparison of its breadth from north to south, will be represented in a double proportion to what it really is: whence it follows, that in whatever proportion the degrees of any parallel are increased or diminished, by a projection in plano, the degrees of longitude ought to be increased or diminished in the same ratio; for otherwise the true bearings and distances of places will be lost, as in the case of the plain-chart, where the degrees of latitude and longitude are all equal.

Though this projection is generally called Mercator's projection, yet our countryman, Mr. Wright, had long before invented it, demonstrated its use, and shewn a ready way of constructing it, by

inlarging

inlarging the meridian line, by a continued addition of secants: but neither of these gentlemen is thought the original author of it, as being hinted by Ptolemy about two thousand years ago.

The manner of constructing this projection. Let AB (plate XLI. fig. 1.) be an arch of the equator, intercepted between any two meridians as AP, BP, meeting in P, the pole of the sphere, whose center is C. Upon the points A and B, erect the perpendiculars AH and BI, and let DE represent an arch of any parallel contained between the same meridians. Draw CA and CB, KD and KE, perpendicular to PC; through D and E draw CF, CG, and join FG; lastly, let fall the perpendicular DL.

Now the arch of the equator AB is to the similar arch of the parallel DE, as AC is to DK, or as the radius to the co-sine of the latitude AD. Suppose now the meridians AP, BP, to be in part projected into the perpendiculars AH and BI, then will the arch DE be projected into the arch FG=AB; but in this case DE, the natural length of the arch, is to FG its protracted length, as the radius CD to the secant of the latitude CF, or as the co-sine LC to the radius CD; for as CF : AC=CD : : DC : LC. Hence it follows that the degrees of latitude in Mercator's chart, increase in proportion of the secant of the latitude to the radius.

For the construction and uses of Mercator's chart, see *Mercator's* SAILING.

Globular CHART, a meridional projection, wherein the distance of the eye from the plane of the meridian, upon which the projection is made, is supposed to be equal to the sine of the angle of 45°. This projection comes the nearest of all to the nature of the globe, because the meridians therein are placed at equal distances; the parallels also are nearly equidistant, and consequently the several parts of the earth have their proper proportion of magnitude, distance and situation, nearly the same as on the globe itself.

Chorographic CHARTS, descriptions of particular countries. See CHOROGRAPHY.

Heliographic CHARTS, descriptions of the body of the sun, and of the maculæ or spots observed in it. See the articles FACULÆ, MACULÆ, *and* SUN.

Hydrographic CHARTS, sheets of large paper, whereon several parts of the land and sea are described, with their respective coasts, harbours, sounds, flats, rocks, shelves, sands, &c. together with the longitude and latitude of each place, and the points of the compass. See the article CHART, *or* SEA CHART, *supra.*

Selenographic CHARTS, particular descriptions of the spots, appearances, and maculæ of the moon. See the article *Heliographic* CHARTS, *supra.*

Topographic CHARTS, draughts of some small parts of the earth only, or of some particular places, without regard to its relative situation, as London, York, &c.

CHARTA EMPORETICA, in pharmacy, &c. a kind of paper made very soft and porous, used to filter withal.

CHARTA, in antient customs, is not only used for a charter, but also for a statute. See CHARTER *and* STATUTE.

CHARTA-MAGNA, an antient instrument, containing several privileges and liberties granted to the church and state by Edward the confessor, together with others relating to the feudal laws of William the conqueror, granted by Henry I. all confirmed by the succeeding princes. See the article MAGNA-CHARTA.

CHARTA PARDONATIONIS SE DEFENDENDO, is the form of a pardon for a man's slaying another in his own defence.

CHARTA PARDONATIONIS UTLAGARIÆ, the form of a pardon for a man that is out-lawed.

CHARTA SIMPLEX, is a single deed, or deed-pole. See the article DEED.

CHARTER, in law, a written instrument or evidence of things acted between one person and another.

Charters of private persons, are deeds and instruments for the conveyance of lands, &c. Here the purchaser of land shall have all the charters and deeds, as incident to the same, and for the maintenance of his title. But this is understood where the feoffer is not bound to a general warranty of the land.

Great CHARTER, MAGNA-CHARTER. See the article MAGNA-CHARTA.

CHARTER *of the king*, is where the king makes a grant to any person or body politic, as a charter of exemption, of privilege, pardon, &c.

CHARTER *of the forest*, that wherein the laws of the forest are comprised and established. See the article FOREST.

CHARTER-HOUSE. See CHARTREUSE.

CHARTER-LAND, such land as a person holds by charter, that is, by evidence in writing, otherwise termed free-hold. See the article FREE-HOLD.

CHARTER-PARTY, in commerce, a deed or writing indented, that is, made between merchants and seafaring men, concerning their merchandize and maritime affairs.

A charter-party or affreightment, settles the agreement in relation to the freight of a ship and cargo, between the merchant and commander or master of the vessel. It binds the master to deliver the cargo in good condition at the place of discharge, *&c.*

In those charter-parties, if the dangers of the sea are excepted, it has been adjudged that such exception extends as well to any danger upon the sea from pirates or men of war, as to common dangers by shipwreck, tempests, *&c.*

The charter-party differs from a bill of loading, in that the first is for the intire freight or lading, and that for both going and returning: whereas the latter is only for a part of the freight, or at most only for the voyage one way.

The common law always construes charter-parties, as near as may be, according to the intention and design of them, and not according to the literal sense. And, if the master of a ship enters into a charter-party for himself and owners, the master in that case may release the freighters, without advising with the owners: though if the owners let out to freight such a ship, whereof A. B. is master, and he only covenants at the bottom, and subscribes his name, here his release will not bind or affect the owners of the ship; but their release, on the other hand shall bind and include him. See FREIGHT.

CHARTIS REDDENDIS, in law, a writ that lies against a person, who having charters of feoffment delivered to him to keep, afterwards refuses to deliver them.

CHARTOPHYLAX, the name of an officer of the church of Constantinople, who attends at the door of the rails when the sacrament is administered, and gives notice to the priests to come to the holy table. He represents the patriarch upon the bench, tries all ecclesiastical causes, keeps all the marriage registers, assists at the consecration of bishops, and presents the bishop elect at the solemnity, and likewise all other subordinate clergy.

CHARTRES, a large city of France, in the province of Orleanois, situated on the river Eure, about forty-two miles south-west of Paris; east long. 1° 32′, north lat. 48° 27′.

It is a bishop's see.

CHARTREUSE, or CHARTREUSE GRAND, a celebrated monastery, the capital of all the convents of the carthusian monks, situated on a steep rock in the middle of a large forest of fir-trees, about seven miles north-east of Grenoble, in the province of Dauphine, in France; east long. 5° 50′, north lat. 45° 20′. See the article CARTHUSIANS.

From this mother convent, all the others of the same order take their name; among which was the chartreuse of London, corruptly called the charter-house, now converted into an hospital, called from its founder Sutton's hospital, and endowed with a revenue of 6000 l. *per ann.*

Here are maintained eighty decayed gentlemen, not under fifty years of age; also forty-four boys are maintained, educated, and fitted either for the university or trades. Those sent to the university, have an exhibition of 20 l. a year each for eight years; the rest are put to trades: the governors of this hospital are sixteen in number, all persons of the first distinction, and take their turns in the nomination of pensioners and scholars.

CHARTULARY, *chartularius*, an officer in the latin church, answering to the chartophylax of the Greeks. See the article CHARTOPHYLAX.

CHARYBDIS, a rock in the strait of Messina, between Italy and Sicily, much celebrated in the writings of antient poets.

CHARYBDIS is also an appellation given by Dr. Plot to certain openings in the bottom of the sea, whereby the water is conveyed to the origin or sources of springs, rivers, *&c.*

The fluxus moschonicus, or maalstrome on the coast of Norway, is supposed to be owing to some such subterranean indraught; and it is advanced also, that the Mediterranean sea could not be emptied of the vast quantities of waters it receives, but must overflow the land of Egypt, unless swallowed by some such charybdis, which is either in some part of the bason of that sea, or near the mouth of it; in which case, it may be the occasion of that strong under-current, described by all those who have treated of this sea. An immense charybdis, placed near the Strait's mouth, may be hid under the immensity of waters there; but as it would absorb the deep waters continually, and that in large quantities, it would necessarily cause such an under-current there.

CHASE, a great quantity of ground lying open

open and privileged for wild beasts and wild fowl. Such is Endfield-chase.

A chase differs from a forest, inasmuch as it may be in the hands of a subject, which a forest in its proper nature cannot; and from a park, in that it is not inclosed, and hath more officers. A chase is not endowed like a forest with so many liberties, as the courts of attachment, swainmote, and justice-seat; and cannot lawfully be made, without license from the king under the broad seal.

CHASE in the sea-language, signifies the ship chased or pursued. See CHASING.

To give CHASE, is to pursue a ship at sea.

Stern CHASE, is when the chase is right a-head with the chaser.

To lie with a ship's fore-foot in the CHASE, is to sail the nearest way to meet her, and so to cross her in her way, or to come across her fore-foot.

A ship is said to have a good forward or stern-chase, when she is built forward on, or a-stern, that she can carry many guns, to shoot right forwards or backwards.

CHASE *of a gun*, is the whole bore of a piece of cannon.

CHASE GUNS, those guns the ports of which are either in the head or in the stern. The former are useful in chasing others; the latter, when a ship is chased or pursued by another ship.

CHASING, in the sea-language, is the giving chase. See the article CHASE.

In chasing, these rules are to be observed. If the chase be to the windward, the chaser is to bring all his tacks aboard, and to shape his course to meet her at the nearest angle. If the chase be to the leeward, then the chaser may come in with her, unless she bear right before the wind, and so outsail her; or bring her close by a wind, and the chaser prove the more leeward ship. If the chase be found right a-head, and so the chaser be put to a stern chase, then the best sailer will carry it, if there be sea-room and day-light.

Being come up close with the chase, endeavour to cross her fore-foot, by which means you will both hinder her way, avoid the fury of her ordnance, and scower her decks from stem to stern, as you pass thwart her hawse. And if she makes away from you, ply your guns with case shot, or cross bar-shot, at her sails, yards, masts, and general tackling.

CHASING *of gold, silver*, &c. See the article ENCHASING.

CHASM, χάσμα, or χάσμη, properly signifies a large gap or hiatus; and hence has been used for oscitation or yawning.

CHASTE-TREE, the english name of the vitex. See the article VITEX.

CHASTISEMENT, in the manege, the severe and rigorous effect of the aids; for when the aids are given with severity, they become punishments. See AIDS.

CHATELET, the name of certain courts of justice established in several cities in France. The grand chatelet at Paris, is the place where the presidial or ordinary court of justice of the provost of Paris is kept; consisting of a presidial, a civil chamber, a criminal chamber, and a chamber of policy. The little chatelet is an old fort, now serving as a prison.

CHATHAM, a port-town of Kent, adjoining to Rochester, situated on the river Medway, thirty miles south-east of London; east long. 40°, north lat 51°20′.

It is one of the principal stations of the royal navy, and is furnished with timber, rope-yards, and all manner of naval stores, sufficient for the building and fitting out the largest fleet.

CHATTEAU-CAMBRESIS, a town of the Cambresis, in the french Netherlands, situated on the river Selle, thirteen miles south-east of Cambray; east long. 3° 25′, north lat. 50° 6′.

CHATTEAU-DAUPHINE, a fortress situated on the frontiers of Piedmont, in the province of Dauphine, but yielded to the king of Sardinia; east long. 6° 40′, north lat. 44° 30′.

CHATTEAU-DUN, a town of France, twenty-five miles north west of Orleans; east long. 1° 25′, north lat. 48° 5′.

CHATTEAU-ROUX, a town of Berri, in France, situated upon the Indre, about fifteen leagues from Bourges.

CHATEL CHALONS, a town of France, in the province of Frenche Compte, about twenty miles south of Dole; east long. 5° 35′, north lat. 46° 50′.

CHATTELERAUT, a town of France, in the province of Orleanois, about eighteen miles north-east of Poictiers; east long. 35′, north lat. 46° 45′.

CHATTELET, a town of the Low Countries, in the province of Namur, situated on the river Sambre, four miles east of Charleroy; east long. 4° 30′, north lat. 50° 25′.

CHATTELS, in law, all sorts of goods moveable and immoveable, except such as are in the nature of freehold.

Chattels are reckoned either personal, or real.

The former are such as do belong either immediately to the person of a man, as his horse, sword, &c. or such things as being injuriously held from him, a man hath no way to recover but by a personal action. See the article PERSONAL.

The latter are such as do not immediately belong to the person of a man, but to some other thing, by way of independance, as a box with charters of land, apples upon a tree, &c. or such things as necessarily issue out of some immoveable thing to a person, as a lease or rent for years; also a hold at will.

CHATTER, or STONE CHATTER. See the article STONE.

CHATTIGAN, a port-town of India, in the province of Bengal, situated at the mouth of the most easterly branch of the Ganges, subject to the mogul: east long. 91°, north lat. 23°.

CHATTILLON, a town of Burgundy, in France, about sixteen miles south-west of Geneva; east long. 5° 40′, north lat. 46° 16′.

This is likewise the name of several other towns of France, situated upon the Indre, the Loing, the Loire, the Marne, the Saone, &c.

CHAVARIGHTS, a sect of mahometans, who deny that God ever sent a prophet that was infallible, and who had a commission to give a law to mankind: they pretend likewise, that if such an office should ever become necessary, it would not be confined to a single family, but that every man of probity and virtue would be capable of that honour.

CHAUFE-WAX. See CHAFE-WAX.

CHAUMONT, the name of two towns of France: the one situated in the isle of France, thirty miles north-west of Paris: east longitude 2°, north latitude 49° 18′: the other situated on the river Marne, in the province of Champaign; east long. 5° 15′, north lat. 48° 12′.

CHAUNTER, CHAUNTOR, or CHANTOR. See the article CHANTOR.

CHAUNTRY, or CHANTRY. See the article CHANTRY.

CHAUSE-TRAPE, or CHAUSSE-TRAPE, the same with caltrop. See CALTROP.

CHAZINZARIANS, in church-history, a sect of heretics who adored the cross. *Chazus* signifies the cross, in the armenian language: they arose in Armenia, in the seventh century.

CHEADLE, a market-town of Staffordshire, ten miles north-east of Stafford: west long. 2°, north lat. 53°.

CHEASPEAK-BAY, a large frith or arm of the sea, which runs up about three hundred miles into the country between Virginia and Maryland, in North America: it is navigable almost all the way for large ships; being about twenty miles broad at the entrance between Charles-cape and cape Henry, and between twenty and thirty miles broad afterwards. See the article CHARLES-CAPE.

CHECAYA, in turkish affairs, the second officer of the janizaries, who commands them under the aga, and is otherwise called protogero.

There is also a checaya of the treasury, stables, kitchen, &c. the word signifying as much as lieutenant, or the second in any office.

CHECK, or CHECK-ROLL, a roll or book, wherein is contained the names of such persons as are attendants and in pay to the king, or other great personages, as their houshold servants.

Clerk of the CHECK, in the king's houshold, has the check and controulment of the yeomen of the guard, and all the ushers belonging to the royal family, allowing their absence or defects in attendance, or diminishing their wages for the same, &c. He also, by himself or deputy, takes the view of those that are to watch in the court, and has the setting of the watch, &c.

Clerk of the CHECK, in the king's navy at Plymouth, &c. is also the name of an officer invested with the like power.

CHECK, in falconry, a term used of a hawk when she forsakes her proper game, to fly at pyes, crows, rooks, or the like, that cross her in her flight.

CHECKY, in heraldry, is when the shield, or a part thereof, as a bordure, &c. is chequered, or divided into chequers or squares, in the manner of a chess-board. See plate XLI. fig. 2.

This is one of the most noble and most antient figures used in armory; and a certain author saith, that it ought to be given to none but great warriors, in token of their bravery: for the chess-board represents a field of battle, and the pawns of men, placed on both sides, represent the soldiers of the two armies, which move, attack, advance, or retire, according to the will of the two gamesters, who are the generals.

This figure is always composed of metal and colour: but some authors would have it reckoned among the several sorts of furs.

CHEEK, in anatomy, that part of the face

face ſituated below the eyes, on each ſide. Wounds of the cheeks, if ſmall, may be cured by the dry ſuture; but if large, the bloody one muſt be uſed. See the article SUTURE.

CHEEKS, among mechanics, are almoſt all thoſe pieces of their machines and inſtruments, that are double, and perfectly alike; as the cheeks of a mortar, which are made of ſtrong wooden planks, of a ſemicircular form, bound with thick plates of iron, and fixed to the bed with four bolts: theſe cheeks riſe on each ſide the mortar, and ſerve to keep it at what elevation is given it: the cheeks of a printing-preſs are its two principal pieces, placed perpendicular and parallel to each other, and ſerving to ſuſtain the three ſommers, &c.

CHEEKS, in ſhip-building, two pieces of timber, fitted on each ſide of the maſt, at the top, ſerving to ſtrengthen the maſt there, and having holes in them, called hounds, through which the ties run to hoiſt the yards.

Alſo the uppermoſt rail, or piece of timber in the beak of a ſhip, and thoſe on each ſide of the trail-board, are called the upper and lower cheek.

The knees alſo which faſten the beak-head to the bows of a ſhip, are called cheeks.

CHEESE, *caſeus*, a ſort of food, prepared of curdled milk, purged from the ſerum or whey, and afterwards dried for uſe.

Phyſicians condemn the too free uſe of cheeſe, by reaſon it loads the ſtomach when new, and heats and inflames when old.

Every country has its places noted for this commodity: thus Cheſter and Glouceſter-cheeſes are famous in England; and the Parmeſan cheeſe is in no leſs repute abroad, eſpecially in France. This ſort of cheeſe is entirely made of ſweet cow's milk: but at Rochfort, in Languedoc, they make cheeſe of ewe's milk; and in other places, it is uſual to add goat or ewe's milk, in a certain proportion, to that of cow's.

There is likewiſe a kind of medicated cheeſe, made by intimately mixing the expreſſed juice of certain herbs, as ſage, baum, mint, &c. with the curd, before it is faſhioned into a cheeſe. The 100 weight of cheeſe pays on importation 1 s. 3 $\frac{4}{10}$ d. and draws back, on exportation, 1 s. 1 $\frac{1}{2}$ d. at the rate of 6 s. 8 d. The cheeſe of Ireland is prohibited to be imported.

CHEESE-RUNNET, in botany, the ſame with the gallium of authors. See the article GALLIUM.

CHEGFORD, a market-town of Devonſhire, about thirteen miles weſt of Exeter; weſt longitude 4°, north latitude 50° 40′.

CHEIRANTHUS, in botany, a genus of the tetradynamia ſiliquoſa claſs of plants, called alſo leucoium, and in engliſh, wall-flower, or ſtock-july-flower.

The flower conſiſts of four roundiſh and cruciform petals: the fruit is a long, compreſſed, bilocular pod, containing a great number of pendulous, oval, and compreſſed ſeeds.

The flowers of this plant are ſaid to be cordial, anodyne, aperient, and emmenagogue.

CHEKAO, a kind of paſte, prepared by calcination and trituration from a hard ſtony ſubſtance, and afterwards waſhing the powder in large quantities of fair water.

The Chineſe uſe the chekao in drawing the elegant figures we ſee in the wholly white china-ware, which they afterwards varniſh in the common way.

CHEKIAM, a province of China, bounded by that of Nankin on the north, and by the ocean on the eaſt.

CHELAZIUM, a name uſed by ſome for a diſtemper of the eye, commonly called a ſtithe or ſtye.

CHELIDONIA, in grecian antiquity, a feſtival celebrated at Rhodes, in the month of Boedromion, in which the boys went from door to door begging and ſinging a ſong called χελιδονισμα, becauſe it began with an invocation of the χελιδον, or ſwallow.

CHELIDONIUM, CELANDINE, or the yellow horned poppy, in botany, a genus of the polyandria-monogynia claſs of plants: the corolla conſiſts of four roundiſh, plane, patent petals, large and narrow at the baſe: the fruit is a cylindric pod, formed of two valves, and containing only one cell: the ſeeds are numerous, oval and ſmooth: the receptacle is linear, between the valves, in form of a ſuture, and not opening.

This plant abounds with a ſharp, acrid ſalt, which makes it deterſive, and is therefore, recommended in the jaundice particularly, and in all other obſtructions and diſorders of the viſcera. The juice is alſo eſteemed for taking films, clouds and ſpecks off the eyes.

CHELEDONIUS LAPIS, in natural-hiſtory,

ty, a ftone faid by the antients to be found in the ftomachs of young fwallows, and greatly cried up for its virtues in the falling ficknefs; but from their defcription, it appears to be only a fpecies of lycodontes, or bufonitæ. See the articles LYCODONTES and BUFONITÆ.

CHELM, a town of Poland, capital of a palatinate of the fame name: it is fituated in the province of red Ruffia, 110 miles fouth-eaft of Warfaw; eaft long. 23° 30′, north lat. 51° 25′.

CHELMSFORD, the county-town of Effex, fituated on the river Chelmer, twenty-five miles north-eaft of London; eaft long. 30′, north lat. 51° 40′.

It fends two members to parliament.

CHELON, in ichthyology, a fifh of the mullet-kind, extremely like the common mullet. See the article MUGIL.

CHELONE, in botany, a genus of the didynamia-angiofpermia clafs of plants: the corolla confifts of only one petal; the tube is cylindric and very fhort; the mouth is inflated, oblong, convex above, and plane below; the upper lip is obtufe and emarginated; the lower is almoft equal with the higher, and is divided into three fmall fegments. The fruit is a roundifh capfule, containing only one cell, and longer than the cup: the feeds are numerous, roundifh, and covered with a membranaceous margin.

CHELSEA, a fine village fituated on the northern bank of the river Thames, a mile weftward of Weftminfter, remarkable for a magnificent hofpital of invalids and old decrepit foldiers; and a pleafure houfe, called Ranelagh, to which a great deal of fine company refort in fummer.

CHELTENHAM, or CHILTENHAM, a market-town of Gloucefterfhire, feven miles north-eaft of Gloucefter: weft long. 2° 10′, north lat. 51° 50′.

It is chiefly remarkable for its mineral waters, of the fame kind with thofe of Scarborough. See SCARBOROUGH.

CHELYS, among the antients, a mufical inftrument of the pulfative kind, faid to be invented by Mercury, and made of a fhell found in the river Nile, at time of low water.

CHEMA, or CHEME, in antiquity, a meafure among the antient phyficians, containing two fpoonfuls: it was the fifth part of the cyathus or cup: full of oil, it weighed two drachms, and feventeen grains.

CHEMIN *des rondes*, in fortification, a fpace between the rampart and low parapet under it, for the rounds to go about the fame.

CHEMISE, in fortification, the wall with which a baftion, or any other bulwark of earth, is lined for its greater fupport and ftrength: or it is the folidity of the wall from the talus to the ftone-row.

Fire-CHEMISE, a piece of linen-cloth, fteeped in a compofition of oil of petrol, camphor, and other combuftible matters, ufed at fea, to fet fire to an enemy's veffel.

CHEMISTRY, χημία, an art which teaches the manner of performing certain phyfical operations, whereby bodies, cognizable to the fenfes, or fuch as may be rendered fo, and are capable of being contained in veffels, may, by fuitable inftruments, be fo changed, that particular determined effects may be thence produced, and the caufes of thefe effects underftood, for the fervice of various arts.

The object whereon chemiftry is employed to produce changes, extends not only to all fenfible bodies, but even to infenfible ones, efpecially fuch as may be collected and contained in veffels; which bodies, by a careful review, have been reduced by the chemifts to three kingdoms, or claffes, containing the foffile, the vegetable, and the animal kingdom.

Dr. Shaw divides chemiftry in general into philofophical, technical, commercial, and œconomical.

Philofophical CHEMISTRY he defines a rational art of dividing, or refolving, all the bodies within our power, by means of all the inftruments we can procure, as well into integrant as conftituent parts; and joining thefe parts together again, fo as to difcover the principles, relations, and changes of bodies; make various refolutions, mixtures, and compofitions; find out the phyfical caufe of phyfical effects: and hence improve the ftate of natural knowledge, and the arts thereon depending. See THEORY.

Philofophical chemiftry confifts of three parts, *viz.* invention, rationale, and experiment; whence it is otherwife defined, a particular exercife of the rational and inventive faculties of the mind, leading to experiments, and thence to the difcovery of caufes, fo as to form axioms that fhall rationally account for phænomena, and difcover rules of practice for producing ufeful effects: thus philofophical chemiftry is not only a key to all the other parts, but of itfelf difcovers the caufes of many natural phænomena, as

partic-

particularly earthquakes, vulcanos, vegetation, the growth of minerals, &c. See the articles EARTHQUAKE, VULCANO, VEGETATION, &c.

This branch of chemiſtry alſo explains the general forms and qualities of bodies, whereon their properties and effects depend; as volatility and fixedneſs, fluidity and firmneſs, colours, taſtes, odours, effervescences, fermentation, precipitation, congelation, extraction, and the like. See VOLATILITY, FIXEDNESS, COLOUR, TASTE, ODOUR, &c.

From the firſt definition of philoſophical chemiſtry, it follows that the objects of this art are all the bodies within our power, and are therefore taken from the three larger maſſes or regions of the globe, *viz.* the earth, water, and atmoſphere. See the article EARTH, &c.

It alſo follows, that the inſtruments of chemiſtry are all thoſe we can any way procure: there are ſeveral inſtruments continually at work in the three larger maſſes, or kingdoms of the globe, *viz.* the earth, water, and atmoſphere, for the immediate production of effects. We evidently find, that metals and minerals are formed within the earth; vegetables on its ſurface, ſhooting into the air; meteors in the atmoſphere; and men, beaſts, and birds, in the confines of the two: the phyſical cauſe of all which, are to be generally ſought as ſo many rules of practice. The principal phyſical agents in nature appear to be, 1. heat, 2. cold, 3. air, or the integrant parts of the atmoſphere, 4. water, and 5. proper beds or matrices. This is matter of direct obſervation; and might occaſion the eſtabliſhing the four elements, fire, air, water and earth. See the articles HEAT, COLD, AIR, and WATER.

Proper beds or matrices appear to have an inſtrumental agency in the production of natural bodies: every ſubject of an operation, is neceſſarily contained in ſomething that may, 1. afford it a lodgment, 2. make ſome reſiſtance, and 3. convey heat, cold, water or air to it, or determine their actions upon it. Thus in vegetation, the matrix earth ſupports the ſeed, reſiſts its ſwelling, and conveys a ſtrained or prepared moiſture to it.

The matrices of gems and ores, not only afford a proper lodgment to the ſubject-matter, but alſo reſiſt its growth, by the preſſure of their ſides: which, however, give way a little, and at the ſame time ſtrain and convey ſuitable juices to the ſubject: and ſomething of this kind is obſerved of the fœtus in utero, the hatching of eggs, &c. inſomuch that cloſeneſs, moderate reſiſtance, or a ſlow-yielding of the ſides of the matrix, and a ſtraining of the juices through them (unleſs ſupplied from within) ſeem requiſite for the formation and production of all vegetable, animal and mineral ſubſtances. Whence we are furniſhed with a capital rule for the improvement of chemiſtry, natural philoſophy, and arts; and taught that, in order to imitate nature, chemiſtry muſt not be confined to the ſole uſe of fire, as its inſtrument, but occaſionally employ water, cold, air, earth, and proper matrices or veſſels. See the articles VEGETATION, GENERATION, FOETUS, HATCHING, EXPERIMENTAL PHILOSOPHY, &c.

But beſides the natural inſtruments, there is a great variety of artificial ones belonging to chemiſtry, which ſeems to raiſe the power of this art, in ſome reſpects, above the power of nature: thus by means of particular menſtruums, it performs operations which nature of herſelf does not. For inſtance, of all the metals only iron and copper are found naturally converted into vitriol; whereas chemiſtry makes vitriols even of gold, ſilver, tin, and lead. And hence the productions of art may be much more numerous than the productions of nature, or enlarged at pleaſure, to the great enrichment of arts, and the enlargement of the kingdom of man. In which light the numerous productions of the chemical trades may be conſidered, as by fermentation, diſtillation, dying, ſoap-making, the art of glaſs, metallurgy, &c. See the articles MENSTRUUM, FERMENTATION, DISTILLATION, &c.

Another ſet of inſtruments belonging to chemiſtry, are veſſels, furnaces, and utenſils, of which there is a great variety for various purpoſes, and capable of producing numerous changes in bodies, as by amalgamation, cæmentation, effuſion, fermentation, putrefaction, reduction, &c. See the articles LABORATORY, FURNACE, AMALGAMATION, CÆMENTATION, FUSION, &c.

To the above-mentioned, Dr. Shaw adds a new ſet, *viz.* the air-pump, condenſer, digeſtor, microſcopes, burning concaves, priſms, lenſes, portable furnaces, and every other inſtrument that can be invented, or procured, of advantage to the art. See the articles AIR-PUMP, CON-

CONDENSER, DIGESTOR, MICROSCOPE, BURNING-GLASS, PRISM, LENS, and FURNACE.

There are two capital ways wherein chemiftry divides its objects, by the feveral inftruments above-mentioned, *viz.* into integrant parts, and into conftituent parts. By integrant parts we underftand fimilar parts, or parts of the fame nature with the whole, as filings of iron have the fame nature and properties as bars of iron. Under this general operation fall thofe particular ones of triture, limitation, folution, amalgamation, fublimation, &c. And by conftituent parts we mean diffimilar parts, or parts of a different nature from the whole, as when artificial cinnabar is divided into the quickfilver and fulphur; and under this general operation come all kinds of refolutions. See TRITURE, LIMITATION, SOLUTION, &c.

Thefe two general operations of chemiftry bear relation to two general ftructures of bodies, *viz.* the aggregate, and the mixt. Aggregates, in their refolution, conftantly retain their mixture in every the fmalleft part or atom; but when mixts are refolved, the mixture is deftroyed, and two or more new aggregates are produced; thus when brandy is refolved, fpirit of wine, or alcohol, and water are produced. Every fenfible mixt, or aggregate, is compofed of many infenfible ones. Before gold can become fenfible to us, there muft be a collection of numerous parts that are feparately infenfible, though all of them perfect gold. The minuteft grain of cinnabar has two different parts, fulphur and quickfilver. The minuteft grain of falt contains fand and fixed falt; and when quickfilver is diffolved in aquafortis, the leaft affignable portion of the menftruum contains a proportionable quantity of mercury to the whole. See ANALYSIS, ALCOHOL, GOLD, CINNABAR, SULPHUR, &c.

Either the integrant, or the conftituent parts of bodies being once divided or refolved, various occafions in chemiftry require them to be joined together again, for compofing a whole like the original fubject. This operation is the converfe of the former; thus by fimple mixture we recompofe brandy from alcohol and water, and by precipitation with a copper-plate, collect the quickfilver difperfed in aquafortis. See the article SYNTHETIC *Chemiftry*.

The refolutions, mixtures, and compofitions made by chemiftry are extremely numerous, and may be increafed *ad infinitum*. Brandy gently diftilled by the balneum mariæ, as was faid before, is refolved into fpirit of wine and water. And to this clafs of refolutions are referable all kinds of depurations, purifications, feparations, clarifications, &c. See DEPURATION, PURIFICATION, SEPARATION, CLARIFICATION, &c.

By mixture we produce all the artificial vitriols, foaps, glaffes, &c. and can compound thefe again, in an almoft infinite variety; fo that of the refolutions, mixtures, compofitions, and recompofitions, in chemiftry, there feems to be no bounds; whence great room is left for the making of new chemical difcoveries.

Philofophical chemiftry being, in the definition given by our learned author, a rational art; by which is meant, that it may be conducted by rule, and need not be left to accidental trial and cafual experiment, he endeavours to comprize the rules for conducting it under the following three.

Rule I. When a body is offered in order to have new properties difcovered in it, different from thofe general ones of figure, gravity, elafticity, &c. which come under mathematical confideration, let the body be refolved by degrees into the fimpleft conftituent parts it is any way capable of, by the inftruments pointed out above; and let trial be made with each feparate part, on a variety of bodies, according to fome analogy of a previous chemical knowledge, leading from one thing to another. In a fure or probable method of ratiocination.

Rule II. Let the feveral parts obtained by the preceding analyfis be re-united, beginning with two, and proceeding gradually to the whole number; ufing at firft the gentleft degree, then the intermediate, and at laft the higheft degrees of heat and cold. Thus for example, join the fixed falt and oil of a plant together; firft by fimple digeftion, and afterwards by boiling, which affords a third production, diffimilar to all the reft, and known by the name of foap; fo again melt the fame fixed falt with the earth of a plant, and this will afford glafs. Let the laft attempt be to reunite all the feparated parts of the body, in order, if poffible, to form the original fubftance again.

Rule III. In every operation performed, let the greateft diligence and exactnefs of obfervation be ufed, with regard to all the principal phænomena and effects produced. Let the phænomena be duly regiftered,

giftred, tabled, confidered, and compared together, after the ftrict geometrical manner; the refult whereof, if there be no confiderable errors committed, will lead to a knowledge of the fecret fprings, motions, inftruments, and means made ufe of by nature for producing effects. And thus, with the proper care and application, juft canons or rules of practice may be formed. The following are what the Doctor calls imperfect axioms and canons, deduced from a number of experiments, and the preceding enquiry, for directing farther difcoveries and improvements in chemical and natural knowledge.

1. We may learn that a true chemiftry (as it may perhaps be juftly called) is exercifed by nature, in the vegetable, animal, mineral, marine, and atmofpherical regions, and that by it all bodies are produced, converted, renovated, rapaired, and maintained; and that in the exact difcovery, imitation, and controul of this natural chemiftry, confifts the perfection of the artificial. 2. That neither the eye, nor all the fenfes together, can give us any information of the latent properties of bodies, their natures, and ufes; but only particular trials and experiments, well attended to and confidered. 3. That experiments are but a kind of dead things, unlefs they have a direct ufe in life, or tend to the raifing axioms and canons for improving our knowledge, and extending our power over the works of nature. 4. That he who can chufe fit fubjects, and place them in proper matrices or including veffels, fupply them duly with air and water, heat and cold, may probably produce great effects in imitation of nature. 5. That nature points out three ways of producing phyfical effects, different in finenefs, *viz.* in beds of earth, beds of water, and beds of atmofphere; beds of earth for minerals, of water for fifh, and of atmofphere for birds, meteors, *&c.* the confines of thefe two for plants and animals, and a rarefied mixture of all matters for meteors. 6. That men may make ufe of the fame inftruments as nature does, *viz.* fire, air, water, and earth, and confequently produce the fame kind of effects, if fkill, that is knowledge, be not wanting: whence to improve in knowledge, is to improve in arts. 7. That chemiftry is not confined to the ufe of fire only, but, in imitation of nature, may employ cold, air, water, and earth, upon matter, in various degrees of fimplicity, combination, and mixture, which fhews an extenfive method of enlarging the bounds of the art. 8. That fire is not only an analyfer in fome cafes, but alfo a mixer of bodies in others, and this to the advantage of chemiftry. For if it only feparated, it could produce but few effects, in comparifon of that infinite variety it now produces, both by mixture and feparation. 9. That it might be proper to try the reciprocation of heat and cold in chemical operations, after the manner of nature in day and night, fummer and winter. 10. That body in all its forms is the object of chemiftry, not confidered mathematically nor mechanically, but operatively and effectively. 11. That the atoms, or primary fmall compofitions of bodies, are infenfible to us. Thus the firft particles of gold, falts, metals, and minerals, may float in the air, and not be perceived by us till they aggregate or collect together, and make a fenfible mafs, or produce a fenfible effect. 12. That fome operation of the mind is requifite to digeft, methodize, and regifter chemical experiments and obfervations, without which we cannot underftand the laws obferved by nature in phyfical operations, nor be able to imitate them; the chemiftry or regular proceffes of the mind, being here as neceffary as the corporeal operations themfelves.

Technical CHEMISTRY is defined to be the application of philofophical chemiftry to the immediate fervice of an art, fo as to invent, form, affift, promote, or perfect it in the large way of bufinefs. This branch of chemiftry is, for the fake of ufe and commodioufnefs, divided by our author into four parts, as it relates to fubjects of the animal, vegetable, and mineral kingdoms, or to feveral of them at once. Thus under animal arts comes the art of preparing fize and glue, tanning, ivory-ftaining, the dying in wool, filk, *&c.* Under vegetable arts comes the art of timber, or the ways of preferving it found againft the injuries of the weather, the fea, *&c.* the art of making rofin, pitch, oil of turpentine, charcoal, potafh, *&c.* the art of brewing and fermenting for wines, vinegars, *&c.* the art of fugar-making and refining, the art of foap-making, *&c.* Under mineral arts come the arts of falt, copperas, vitriol, borax, pottery, metals, foundery, fmithery, *&c.* And laftly, under mixed arts come the art of paper, the art of ink, the art of japanning,

panning, the art of glafs, the art of pigments, the art of pharmacy, the art of fire-works, &c. all which are proper chemical arts, that fall under technical chemiftry. See the articles SIZE, GLUE, &c.

Commercial CHEMISTRY is the application of both philofophical and technical chemiftry, to the eftablifhing, fupporting, and improving any branch of trade and commerce. Commercial chemiftry confifts of three parts, *viz.* 1. The exercife of all the chemical arts in a large manner, fo as to fupply more than the demands of a fingle country, and afford a furplus of commodities for exportation and foreign confumption. 2. The various ways of condenfing, curing, preparing, fecuring, and fitting natural and artificial commodities for carriage and tranfportation. And 3. The ways of fupplying the chemical neceffaries to voyagers and travellers, for founding, fupporting, and improving trade, traffic, and commerce, in different countries.

It is by means of technical and commercial chemiftry together, that different countries are fupplied with lead, tin, iron, filver, oil, tallow, tanned hides, pitch, rofin, brimftone, wax, wines, brandies, falt, fugars, treacle, paper, &c. whereby all trades, traffic, and commerce are fupported. And to difcover this kind of contrivances or reductions, is the office of commercial chemiftry; thus inftead of importing many tuns of a foreign-dying wood, we are taught to extract its tinging parts, and bring them away in the quantity of a few pounds. It affords the neceffaries for long trading voyages; it directs to the certain rules of difcovering the fophiftications practifed in wines, brandies, vinegars, arracks, gold-fand, gold bars or ingots, counterfeit gems, &c. and to the way of affaying pot-afh, tincal, ambergreafe, mufk, and all the drugs, &c. See the articles IRON, SILVER, OIL, &c.

Oeconomical CHEMISTRY is the application of philofophical, technical, and commercial chemiftry, to the fervice and accommodation of a family, being of great ufe and extent, fo as to be capable of improving all the reft. This branch is divided with regard to the feveral offices of a houfe, wherein, as in fo many different laboratories, it may be commodioufly practifed; for inftance, in the brewhoufe, the ftore-room, the kitchen, the dairy, the laundry, and the cellar. Thus by means of œconomical chemiftry, we are inftructed in the beft ways of procuring and brewing with malt, treacle, honey, fugar, or other vegetable juices; the beft ways of raifing and of preferving yeaft or wine-lees, for baking or brewing, and of imitating the natural wines of foreign growth. This art directs us how to procure the fimple and compound waters of vegetables in their greateft perfection, and to make a fet of brandies or cordial waters, even from the grofs lees, fediments, or bottoms of our wine or ale-cafks. Hence alfo we learn the method of preferving fruits in fugar, and feveral vegetable productions in the way of pickle, &c. and the art of cookery is alfo improveable by this means. See the articles BREWING, &c.

Analytical CHEMISTRY, that part of chemiftry which teaches the art of analyfing vegetable, animal, and mineral fubftances, and refolving them into different parts or principles. See ANALYSIS.

Synthetic or *Synthetical* CHEMISTRY. See the article SYNTHETIC.

With refpect to the well-known enthufiafm of the chemifts, there are fome caufes to be affigned why thofe who firft cultivated this art, were fo extremely addicted to fiction. Chemiftry was formerly in the hands of miners and fmelters of metals; men unacquainted with the liberal fciences, condemned to lead their lives in darknefs, under ground, and to fupport their wretched beings with coarfe and hard fare; befides, thefe men were daily obnoxious to a thoufand dangers, dreading what might happen, difturbed in mind, and leading a very uneafy life. Under thefe circumftances they gave their attention to fuperftitious tales and fabulous ftories. Thefe and many other circumftances that might be named, gave occafion to the revival of thefe abfurd notions of the Magi, Chaldeans, and Perfians, that the fire was God, &c. Some among the chemifts tried the magic arts of Zoroafter; fome, with Plato, imagined demons exifting every where: there was nothing but what they bedaubed with their commentaries, types, and riddles; the fanatical humour at laft prevailing to fuch a degree, as to change the hiftory of facts, and the miracles wrought in confirmation of the gofpel, into the maxims of alchemy. See ALCHEMY.

At the declenfion of the eaftern empire, chemiftry fhared the common fate of the other arts, and lay buried and neglected, till the time of friar BACON, by whom it was

was in a great meaſure retrieved. He was followed by Raymund Lully, Baſil Valentine, Paracelſus, Van Helmont, Mr. Boyle, Boerhaave, Shaw, Geoffroy, Neumann, &c.

CHEMOSIS, a diſeaſe of the eyes, proceeding from an inflammation, when the white of the eye ſwells above the black, and overtops it to ſuch a degree, that there appears a ſort of gap between them.

Others define it to be an elevation of the membrane which ſurrounds the eye, and is called the white; being an affection of the eye, like white fleſh.

CHENOPODIUM, in botany, a genus of the pentandria-digynia claſs of plants, comprehending gooſe-foot, engliſh mercury, and ſtinking orrach.

It has no flower petals, nor pericarpium, except the cup, which contains a ſingle, orbicular, and depreſſed ſeed.

CHEPELIO, an iſland in the bay of Panama, and province of Darien, in South America, ſituated about three leagues from the city of Panama, which it ſupplies with proviſions: weſt long. 81°, north lat. 9°.

CHEPSTOW, a market-town in Monmouthſhire, ſituated on the river Wye, near its mouth, about ten miles ſouth of Monmouth: weſt longitude 2° 40′, north latitude 51° 40′.

CHEQ, or CHERIF, the prince of Mecca, who is, as it were, high prieſt of the law, and ſovereign pontiff of all the mahometans, of whatever ſect or country they be. See the article CALIPH.

The grand ſignior, ſophies, mogols, kans of Tartary, &c. ſend him yearly preſents, eſpecially tapeſtry to cover Mahomet's tomb withal, together with a ſumptuous tent for himſelf, and vaſt ſums of money to provide for all the pilgrims, during the ſeventeen days of their devotion.

CHERBURG, a port-town of France, in the province of Normandy, ſituated on a bay of the engliſh channel, oppoſite to Hampſhire, in England: weſt long. 1° 40′, north lat. 49° 45′.

CHEREF, or CHERIF, is a title aſſumed by the emperors of Morocco. See the articles CHEQ and CALIPH.

CHEREM, in jewiſh antiquity, the ſecond and greater ſort of excommunication among the Jews.

The cherem deprived the excommunicated perſon of almoſt all the advantages of civil ſociety; he could have no commerce with any one, could neither buy nor ſell, except ſuch things as were abſolutely neceſſary for life; nor reſort to the ſchools, nor enter the ſynagogues; and no one was permitted to eat or drink with him.

The ſentence of cherem was to be pronounced by ten perſons, or at leaſt in the preſence of ten; but the excommunicated perſons might be abſolved by three judges, or even by one, provided he were a doctor of the law. The form of this excommunication was loaded with a multitude of curſes and imprecations, taken from different parts of the ſcripture.

CHERESOUL, the capital of Curdiſtan, in aſiatic Turky, and the ſeat of the beglerbeg, or viceroy, of the province: eaſt long. 45°, north lat. 36°.

CHERLERIA, in botany, a genus of the decandria-trigynia claſs of plants: the flower has properly no petals; the nectaria are five in number, roundiſh and emarginated, very ſmall, and placed in a circular direction: the fruit is a capſule of an ovated figure, formed of three valves, and containing three cells: the ſeeds are numerous, convex on one ſide, and angulated on the other.

CHERMES, in zoology, a genus of four-winged inſects, the characters of which are theſe: its roſtrum, or trunk, is ſituated under the breaſt; the abdomen is mucronated or pointed at the hinder extremity; and the legs are formed for leaping.

Theſe inſects, which are called in engliſh *bugs*, take particular denominations from the trees or plants on which they feed; as the chermes ulmi, or elm-bug, the fir-bug, the birch-bug, the maple-bug, the willow-bug, the nettle-bug, &c.

CHERRY-TREE, *ceraſus*, in botany. See the article CERASUS.

If theſe trees are planted againſt walls, it is adviſeable to ſet dwarfs between the ſtandards, to cover the lower part of the wall, while theſe laſt ſpread over the upper part; and when the dwarfs grow up to fill the whole wall, the ſtandards ſhould be taken away.

The beſt cherries for eating are thoſe of a hard ſubſtance, when fully ripe; the ſoft and watry ones being of a cold and putreſcent nature: the four kinds are alſo preferable to the ſweet. Eaten in moderation, they quench thirſt, and create an appetite, eſpecially if boiled with a good quantity of ſugar to them.

CHERRY likewife makes part of the englifh name of feveral other trees: thus the *malpighia* of authors is called Barbadoes or cow-hedge cherry; the *padus*, bay-cherry, bird-cherry, or laurel-cherry; the *cornus*, cornel cherry, &c. See the article MALPIGHIA, &c.

CHERRY-BRANDY, a drink made of brandy, with the addition of black cherries. A bottle being half filled with thefe, is filled up with brandy, and fhaken feveral times: in a month's time it will be ready to drink. To fweeten it, as well as to improve the flavour, fome add fugar and a few rafpberries.

CHERRY-WINE is made of the expreffed juice of cherries, to every two gallons of which two pounds of fugar are added: this done, it is put into a veffel to ferment, and after ftanding two months in the cafk, is bottled off with a little fugar for ufe.

CHERRY-ISLE, in geography, an ifland fituated in the north or frozen ocean, between Norway and Greenland: eaft longitude 20°, north latitude 75°.

CHERSO, the capital of an ifland of the fame name, in the gulph of Venice, and fubject to the Venetians: eaft longitude 15°, north latitude 45° 25′.

CHERSONESUS, χερσονησος, among geographers, the fame with a peninfula. See the article PENINSULA.

CHERTSEY, a market-town of Surry, about feven miles weft of Kingfton: weft longitude 30′, north latitude 51° 25′.

CHERUB, or CHERUBIN, a celeftial fpirit, which in the hierarchy is placed next to the feraphim. See the article HIERARCHY.

The feveral defcriptions which the fcripture gives us of cherubins, differ from one another: but all agree in reprefenting a figure compofed of various creatures, as a man, an ox, an eagle, and a lion.

CHERUBIN was alfo the name of an antient military order in Sweden, otherwife called the order of Seraphim. It was inftituted by Magnus IV. and abolifhed by Charles IX. It took its denomination from the golden figures of cherubims, whereof the collar of the order was compofed.

CHERUBICAL-HYMN, a hymn of great note in the antient chriftian church. It was likewife called trifagium, or thrice holy, becaufe the form of it was in thefe words, *Holy, holy, holy, Lord God of hofts*, &c.

The fame form of words, with fome alterations, is ufed to this day in our church, making part of the hymn, Te Deum laudamus.

CHERVIL, *chærophyllum*, in botany, &c. See the article CHÆROPHYLLUM.

CHERWEL, a river, which, arifing in Northamptonfhire, runs fouthwards by Banbury, and unites its waters with thofe of the Ifis, near Oxford.

CHESHAM, a market-town of Buckinghamfhire, about nine miles fouth-eaft of Ailefbury: weft longitude 35′, north latitude 51° 36′.

CHESHIRE, a maritime county of England, bounded by Staffordfhire on the eaft, and by the Irifh fea on the weft; its chief commodities are falt and cheefe, the laft of which is much efteemed all over Britain.

CHESNUT-TREE, the englifh name of the caftanea of botanifts. See the article CASTANEA.

Next to oak, the chefnut-timber is moft coveted by carpenters and joiners. It likewife makes the beft ftakes, pallifadoes, vine-props, hop-poles, &c. and is alfo proper for mill timber, and water-works. It is likewife fit for chefts, tables, bedfteads, columns, &c.

As to the fruit of this tree, the biggeft chefnuts are accounted beft; which fhould be kept a confiderable time before they are ufed, by which means they become not only more favoury, but likewife more wholefome.

Horfe-CHESNUT, in botany, the fame with the hippocaftanum of authors.

Scarlet-horfe-CHESNUT, a name given to the pavia of botanifts.

CHESS, an ingenious game, performed with different pieces of wood, on a board divided into fixty-four fquares or houfes; in which chance has fo fmall a fhare, that it may be doubted whether a perfon ever loft but by his own fault.

Each gamefter has eight dignified pieces, *viz.* a king, a queen, two bifhops, two knights, and two rooks; alfo eight pawns: all which, for diftinction fake, are painted of two different colours, as white and black.

As to their difpofition on the board, the white king is to be placed on the fourth black houfe from the corner of the board, in the firft and lower rank; and the black king is to be placed on the fourth white houfe on the oppofite or adverfary's end of the board. The queens are to be placed next to the kings, on houfes of their own colour. Next to the king and queen, on each hand, place the two bifhops;

bishops; next to them, the two knights; and last of all, on the corners of the board, the two rooks. As to the pawns, they are placed, without distinction, on the second rank of the house, one before each of the dignified pieces.

Having thus disposed the men, the onset is commonly begun by the pawns, which march straight forward in their own file, one house at a time, except the first move, when it can advance two houses, but never moves backwards: the manner of their taking the adversary's men, is sideways, in the next house forwards; where having captivated the enemy, they move forward as before. The rook goes forward or cross-ways through the whole file, and back again. The knight skips backward and forward to the next house, save one, of a different colour, with a sidling march, or aslope, and thus kills his enemies that fall in his way, or guards his friends that may be exposed on that side. The bishop walks always in the same colour of the field that he is placed in at first, forward and backward, aslope, or diagonally, as far as he lists. The queen's walk is more universal, as she takes all the steps of the before-mentioned pieces, excepting that of the knight; and as to the king's motion, it is one house at a time, and that either forward, backward, sloping, or sideways.

As to the value of the different pieces, next to the king is the queen, after her the rooks, then the bishops, and last of the dignified pieces comes the knight. The difference of the worth of pawns, is not so great as that of noblemen; only, it must be observed, that the king's bishop's pawn is the best in the field, and therefore the skilful gamester will be careful of him. It ought also to be observed, that whereas any man may be taken, when he falls within the reach of any of the adversary's pieces, it is otherwise with the king, who, in such a case, is only to be saluted with the word *check*, warning him of his danger, out of which it is absolutely necessary that he move; and, if it so happen that he cannot move without exposing himself to the like inconveniency, it is check-mate, and the game is lost.

CHESSE-TREES, two small pieces of timber with a hole in them, on each side of a ship, a little before her loof, for the main tackle to run through, and to which it is haled down.

CHEST, in commerce, a kind of measure, containing an uncertain quantity of several commodities.

A chest of sugar, *v. g.* contains from ten to fifteen hundred weight; a chest of glass, from two hundred to three hundred feet; of castile soap, from two and an half to three hundred weight; of indigo, from one and an half to two hundred weight, five score to the hundred.

CHEST, in anatomy, the breast, or that part of the body which contains the heart and lungs. See the article BREAST.

CHEST-TRAPS, a kind of boxes or traps with single or double entries, for catching pole-cats, fitchets, marterns, &c.

CHESTER, the capital city of Cheshire, situated sixteen miles south of Liverpool: west longitude 3°, north latitude 53° 15′. It is a bishop's see, and gives the title of earl to the prince of Wales.

New CHESTER, the capital of a county of the same name in Pensilvania, in north America, situated on the river Delawar, south of Philadelphia: west longitude 74°, north latitude 40° 15′.

Its harbour is fine and capacious, admitting vessels of any burden.

CHESTERFIELD, a market-town of Derbyshire, fifteen miles north of Derby: west long. 1° 25′, north lat. 53° 20′. It gives the title of earl to a branch of the noble family of Stanhope.

CHEVAGE, or CHIEFAGE, a tribute of a certain sum of money, formerly paid by such as held lands in villainage to their lords, by way of acknowledgment, being a kind of poll, or head-money.

The word seems to have been used for a sum of money paid yearly to a man of power for his patronage and protection. The Jews allowed to live in England, long paid chevage, or poll-money, *viz.* three-pence *per* head: it was paid at Easter.

CHEVAL DE FRISE. See the article CHEVAUX DE FRISE.

CHEVALER, in the manege, is said of a horse when in passaging upon a walk or a trot, his off fore leg crosses or overlaps the near fore-leg every second motion.

CHEVALIER, in a general sense, signifies a knight, or horseman: but,

CHEVALIER, in heraldry, signifies any cavalier, or horseman, armed at all points, by the Romans called cataphractus eques, now out of use, and only to be seen in coat-armour.

CHEVAUX DE FRISE, in fortification, a large joist, or piece of timber, about a foot in diameter, and ten or twelve in length,

length, into the fides whereof are driven a great number of wooden pins, about fix feet long, armed with iron points, and croffing one another. See plate XLI. fig. 3.

The chief ufe of the chevaux de frife, is to ftop up breaches, or to fecure the avenues of a camp, from the inroads both of horfe and foot. It is fometimes alfo mounted on wheels, with artificial fires, to roll down in an affault.

CHEVERON, or CHEVRON, in heraldry. See the article CHEVRON.

CHEVIOT, or TIVIOT-HILLS, run from north to fouth through Cumberland, and were formerly the borders or boundaries between England and Scotland, where many a bloody battle has been fought between the two nations, one of which is recorded in the ballad of Chevy-chafe.

CHEVISANCE, in law, denotes an agreement or compofition, as an end or order fet down between a creditor and his debtor, *&c.*

In our ftatutes, this word is moft commonly ufed for an unlawful bargain, or contract.

CHEVRETTE, in the art of war, an engine for raifing of guns or mortars into their carriages.

It is made of two pieces of wood, about four feet long, ftanding upright upon a third fquare piece: the upright pieces are about a foot afunder, and pierced with holes exactly oppofite to each other, having an iron bolt, which being put thro' thefe holes higher or lower, at pleafure, ferves with a hand-fpike, which takes its poife over this bolt, to raife any thing by force. See plate XLI. fig. 4.

CHEVRON, or CHEVERON, in heraldry, one of the honourable ordinaries of a fhield, reprefenting two rafters of an houfe, joined together as they ought to ftand; it was antiently the form of the prieftefles head attire: fome fay, it is a fymbol of protection; others, of conftancy; others, that it reprefents knights fpears, *&c.* It contains the fifth part of the field, and is figured as in plate XLI. fig. 5.

A chevron is faid to be abafed, when its point does not approach the head of the chief, nor reach farther than the middle of the coat; mutilated, when it does not touch the extremes of the coat, cloven, when the upper pieces are taken off, fo that the pieces only touch at one of the angles; broken, when one branch is feparated into two pieces; couched, when the point is turned towards one fide of the efcutcheon; divided, when the branches are of feveral metals, or when metal is oppofed to colour; inverted, when the point is turned towards the point of the coat, and its branches towards the chief.

Per CHEVRON, in heraldry, is when the field is divided only by two fingle lines, rifing from the two bafe points, and meeting in the point above, as the chevron does.

CHEVRONED, is when the coat is filled with an equal number of chevrons, of colour and metal.

CHEVRONEL, a diminitive of chevron, and as fuch, only containing half a chevron.

CHEVRONNE, or CHEVRONNY, fignifies the dividing of the fhield feveral times chevron-wife.

CHEWING-BALLS, a kind of balls made of afafœtida, liver of antimony, bay-wood, juniper-wood, and pellitory of Spain; which, being dried in the fun, and wrapped in a linen cloth, are tied to the bit of the bridle for the horfe to chew: they create an appetite; and it is faid, that balls of Venice-treacle may be ufed in the fame manner with good fuccefs.

CHIAMPA, the fouth divifion of Cochin-china, a country of the Eaft-Indies.

CHIAN EARTH, in pharmacy, one of the medicinal earths of the antients, the name of which is preferved in the catalogues of the materia medica, but of which nothing more than the name has been known for many ages in the fhops.

It is a very denfe and compact earth, and is fent hither in fmall flat pieces from the ifland whofe name it bears, and in which it is found in great plenty at this time. It ftands recommended to us as an aftringent. They tell us, it is the greateft of all cofmetics, and that it gives a whitenefs and fmoothnefs to the fkin, and prevents wrinkles, beyond any of the other fubftances that have been celebrated for the fame purpofes.

CHIAOUS, a word in the original Turkifh fignifying envoys, are officers to the number of five or fix hundred in the grand fignior's court, under the command of a chiaous bafchi. They frequently meet in the grand vizier's palace, that they may be in readinefs to execute his orders, and carry his difpatches into all the provinces of the empire. The chiaous bafchi affifts at the divan, and introduces thofe who have bufinefs there.

CHIAPA, the capital of a province of the fame

ſame name in Mexico, ſituated about 300 miles eaſt of Acapulco: weſt longitude 98°, north latitude 16° 30′.

CHIARASCO, a fortified town of Piedmont, in Italy, ſituated on the river Tanaro, twenty miles ſouth-eaſt of Turin, and ſubject to the king of Sardinia: eaſt longitude 7° 45′, north latitude 44° 40′.

CHIARENZA, a port-town on the north-weſt coaſt of the Morea, oppoſite to the iſland Zant, in the Mediterranean, and ſubject to the Turks: eaſt longitude 21° 15′, north latitude 37° 35′.

CHIARI, a town of Italy, in the province of Breſcia, in the territories of Venice, about twenty-ſeven miles eaſt of Milan: eaſt long. 10° 18′, north lat. 45° 30′.

CHIARO-SCURO, among painters. See the article CLARO-OBSCURO.

CHIAVENNA, a town of the Griſons, ſituated north of the lake of Como, in Italy, and thirty-five miles ſouth of Coire: eaſt longitude 9° 30′, north lat. 46° 15′.

CHIAUSI, in the turkiſh affairs, officers otherwiſe called mutes, employed in executing perſons of diſtinction; the orders for doing which, are ſent them by the grand ſignior, wrapped up in a black cloth.

CHICANE, or CHICANRY, in law, an abuſe of judiciary proceedings, tending to delay the cauſe, to puzzle the judge, or impoſe upon the parties.

CHICANE, in the ſchools, is applied to vain ſophiſms, diſtinctions and ſubtleties, which protract diſputes and obſcure the truth.

CHICHES, or CHIC-PEASE, the ſame with the cicer of botaniſts. See CICER.

CHICHESTER, the capital city of Suſſex, ſituated fifty-two miles ſouth-weſt of London, and twelve miles eaſt of Portſmouth: weſt longitude 50′, north latitude 50° 50′.

It is a biſhop's ſee, and ſends two members to parliament.

New CHICHESTER, a port town of Penſilvania, ſituated on the river Delawar, below Cheſter. See the article CHESTER.

CHICK, or CHICKEN, in zoology, denotes the young of the gallinaceous order of birds, eſpecially the common hen. See the articles GALLINACEOUS and HATCHING.

Chickens, for two days after hatching, require no meat; but then it is proper to give them, for the firſt time, ſmall oatmeal, ſome dry, and ſome ſteeped in milk, or elſe fine white-bread crumbs; and after they have got ſtrength, curds, cheeſe parings, &c. It is alſo very wholeſome to chop green chives among their meat, which will preſerve them from the rye, and other diſeaſes in the head: neither muſt they at any time be ſuffered to want clean water, ſince puddle-water is apt to breed the pip. To have fat crammed chickens, let them be cooped up when the dam forſakes them, and fed with wheat-meal in milk made into a dough, and ſteeped in milk: by uſing this diet, they will be fat in two weeks.

CHICKEN POX. See the article *Small* POX.

CHICK-WEED, *alſine*, in botany. See the article ALSINE.

Berry-bearing CHICK-WEED, the ſame with the cucubalus of botaniſts. See the article CUCUBALUS.

CHICKLING PEA, in botany, a name given to the lathyrus. See the article LATHYRUS.

CHICUITO, or CUYO, a province of South America, bounded by the province of La Plata on the north eaſt, and by Chili on the weſt.

CHIDLEY, or CHIMLEY, a market-town of Devonſhire, about eighteen miles north-weſt of Exeter: weſt longitude 4°, north latitude 51°.

CHIEF, a term ſignifying the head, or principal part of a thing or perſon. Thus we ſay, the chief of a party, the chief of a family, &c.

CHIEF, in heraldry, is that which takes up all the upper part of the eſcutcheon from ſide to ſide, and repreſents the ornaments uſed on a man's head. Plate XLI. fig. 6.

It is to take up juſt the third part of the eſcutcheon, as all other honourable ordinaries do, eſpecially if they are alone on the ſhield; but if there be ſeveral of them, they muſt be leſſened in proportion to their number, and the ſame holds when they are cantoned, attended and bordered upon by ſome other figures; then the painter or engraver may be allowed to bring them into a ſmaller compaſs, to the end that all that is repreſented about the ordinaries, may appear with ſome proportion and ſymmetry. Chiefs are very much varied, for they may be couvert, ſupported, crenellé, ſurmounted, abaiſé, rempli, dentillé, engreſlé, canellé, danché, nebulé, fleurdelezée, fleuronné, vair, echequeté, lozangé, burellé, patté, fretté, gironné, chaperonné, chappé, mantelé, emmanché, chauſſé, veſtu, or reveſtu. See the

the articles COUVERT, SUPPORTED, &c.

In CHIEF, imports fomething borne in the chief part or top of the efcutcheon.

CHIEF LORD, the feudal lord, or lord of an honour on whom others depend. See the articles LORD and HONOUR.

Holding in CHIEF. See the articles CAPITE and TENURE.

CHIEF *juftice of the king's-bench and common pleas.* See the article JUSTICE.

CHIEF PLEDGE, the fame with headborough. See the article HEADBOROUGH.

CHIEF POINT. See the article POINT.

CHIEFTAIN, denotes the captain, or chief, of any clafs, family, or body of men: thus, the chieftains, or chiefs, of the highland clans, were the principal noblemen or gentlemen of their refpective clans.

CHIERI, a fortified town of Piedmont, in Italy, fituated eight miles eaft of Turin: eaft long. 7° 45′, north latit. 44° 50′.

CHILBLAINS, in medicine, the fame with what is otherwife called perniones. See the article PERNIONES.

CHILD, a term of relation to parent. We fay, natural child, legitimate child, pofthumous child, &c.

Child, *infans*, in the civil law, denotes one under feven years of age.

The cuftom has prevailed almoft in all countries, and in all ages, of wrapping a young child in fwaddling bands, left its limbs, being then tender and flexible, fhould happen to be diftorted. The Spartan nurfes, however, were fo careful and experienced, that without ufing fwaddling bands, their children were ftraight and well proportioned. Moreover, the Lacedemonians, in the management of their children, were at great pains to ufe them to any fort of meat, and fometimes to bear the want of it; not to be afraid in the dark, or to be alone; nor to be froward, peevifh, and crying, as children generally are, often thro' the impertinent care and fondnefs of thofe who look after them.

Dr. Harris, in a treatife of the acute difeafes of children, takes them all to arife from the humours of the primæ viæ growing four and degenerating into acidities, which is confirmed from their four belchings and dejections. Hence all that is required to cure them, is to combat this acidity, which is to be effected two ways; by difpofing it to be evacuated, and by actual evacuation by rhubarb, and other gentle purgatives.

In the firft cafe, no fudorifics or cordials are to be ufed, but in lieu of them, crab's-eyes and claws, oyfter-fhells, egg-fhells, chalk, coral, &c. but above all thefe, he prefers old fhells that have lain long on the fea-fhore expofed to the heat of the fun. Children are very obnoxious to the aphthæ, fcabby eruptions, difficult dentition, epilepfy, worms, and rickets; for the cure of which, fee each of thefe under its proper head. See alfo the articles INFANT, WEANING, &c.

Lord Bacon affigns for the reafon of children's not being hairy, that they are more perfpirable than adult perfons.

CHILD-BED, CHILD-BIRTH, } See DELIVERY.

CHILD-WIT, a fine impofed upon a bondwoman, got with child without the confent of her lord. Within the manor of Writtle, in the county of Effex, every reputed father of a bafe child pays to the lord 3 s. 4 d. for a fine; and this penalty extends to free as well as bond women.

Charity CHILDREN. See CHARITY-SCHOOLS and HOSPITAL.

CHILDERMAS-DAY, or INNOCENT's-DAY, an anniverfary held by the church, on the 28th of December, in commemoration of the children at Bethlehem, maffacred by order of Herod.

CHILI, a province of South America, bounded by Peru on the north, by the province of La Plata on the eaft, by Patagonia on the fouth, and by the Pacific ocean on the weft; lying between 25° and 45° fouth lat. and between 75° and 85° weft longit. But fome comprehend Patagonia and Chili, extending it to Cape Horn, in 57° 30′ fouth latitude.

CHILIAD, denotes a thoufand of any things, ranged in feveral divifions, each whereof contains that number.

CHILIARCHA, or CHILIARCHUS, in antiquity, a military officer, who had the command of a thoufand men.

CHILMINAR, CHELMINAR, or TCHELMINAR, the moft beautiful piece of architecture remaining of all antiquity, being the ruins of the famous palace of Perfepolis, to which Alexander the great, in a drunken fit, fet fire, at the inftigation of Thais the courtezan: the word comes from the perfian *tchehle minar*, that is to fay, forty towers.

Don Garcias de Silva Figueroa, Pietro della Valle, Sir John Chardin, and Le Brun have been very particular in defcribing thefe ruins.

There appear (fay they) the remains of near fourfcore columns, the fragments of

of which are at leaſt ſix feet high; but there are only nineteen can be called entire, with another detached from the reſt, about an hundred and fifty paces: a rock of hard black marble ſerves as a foundation to the edifice: the firſt plan of the houſe is aſcended to by ninety-five ſteps, all cut in the rock; the gate of the palace is about twenty feet wide, with the figure of an elephant on one ſide, and that of a rhinoceros on the other, thirty feet high, and both of poliſhed marble: near theſe animals there are two columns, and not far from thence the figure of a pegaſus. After paſſing this gate are found fragments of magnificent columns in white marble, the ſmalleſt of which are fifteen cubits high, the largeſt eighteen, having forty flutings three full inches wide each; from whence we may judge of their thickneſs and other proportions. Near the gate is ſeen an inſcription on a ſquare piece of black marble, containing about twelve lines; the characters are of an extraordinary figure, reſembling triangles, or pyramids: beſides this there are other inſcriptions, the characters of which reſemble the hebrew, chaldaic, ſyriac, others the arabic, or perſian; and others, in fine, the greek characters. Dr. Hyde, who hath explained the greek inſcription, by ſupplying ſome words that are effaced, obſerves that the inſcriptions are engraved very negligently, and perhaps by ſome ſoldiers; or, if they are the work of an engraver, he thinks that he was from Palmyra, and conſequently that they are in the phœnician tongue: he adds, that as they are in praiſe of Alexander, they were probably done in the time of that conqueror.

CHILTERN, a chain of chalky hills, running from eaſt to weſt through Buckinghamſhire.

CHIMÆRA, or CHIMERA. See the article CHIMERA.

CHIMÆRA, in geography, a port-town of Turky, in Europe, ſituated at the entrance of the gulph of Venice, in the province of Epirus, about thirty-two miles north of the city Corfu, near which are the mountains of Chimæra, which divide Epirus from Theſſaly: eaſt longitude 20° 40′, and north latitude 40° 20′.

CHIMAY, the name of a great lake, lying in the province of Acham, between the Eaſt-Indies and China.

CHIMAY is alſo the name of a town of Hainalt, in the french Netherlands, about twenty miles ſouth of Charleroy: eaſt lon. 4° 20′, and north lat. 50° 6′.

CHIMERA, or CHIMÆRA, a fabulous monſter which the poets feign to have the head of a lion, the body of a goat, and the tail of a dragon; and add, that this odd beaſt was killed by Bellerophon. The foundation of the fable was, that in Lycia there was a burning mountain, or vulcano, of this name; that the top of this mountain was ſeldom without lions, nor the middle, which had very good graſs, without goats; that ſerpents bred at the bottom, which was marſhy; and that Bellephoron rendered the mountain habitable.

By a chimera, among the philoſophers is underſtood a mere creature of the imagination, compoſed of ſuch contradictions and abſurdities as cannot poſſibly any where exiſt but in thought.

CHIMES *of a clock*, a kind of periodical muſic, produced at equal intervals of time, by means of a particular apparatus added to a clock.

In order to calculate numbers for the chimes, and adapt the chime-barrel, it muſt be obſerved that the barrel muſt turn round in the ſame time that the tune it is to play requires in ſinging. As for the chime-barrel, it may be made up of certain bars that run athwart it, with a convenient number of holes punched in them to put in the pins that are to draw each hammer; and theſe pins, in order to play the time of the tune rightly, muſt ſtand upright, or hang down from the bar, ſome more, ſome leſs. To place the pins rightly, you may proceed by the way of changes on bells, *viz.* 1, 2, 3, 4; or or rather make uſe of the muſical notes. Obſerve what is the compaſs of your tune, and divide the barrel accordingly from end to end: thus in the following examples each of theſe tunes are eight notes in compaſs, and therefore the barrel is divided into eight parts: theſe diviſions are ſtruck round the barrel, oppoſite to which are the hammer-tails; but when two notes of the ſame ſound come together in a tune, there muſt be two hammers to that bell to ſtrike it. Then you are to divide it round about, into as many diviſions as there are muſical bars, ſemibriefs, minims, &c. in your tune; thus the hundredth Pſalm tune hath twenty ſemibriefs, the firſt note of it is alſo a ſemibrief, and therefore on the chime-barrel muſt be a whole diviſion from 5 to 5; as may be underſtood by conceiving the

the ſurface of a chime-barrel to be repreſented by the following tables, as if the cylindrical ſuperficies of the barrel were ſtretched out at length, or extended on a plane; and then ſuch a table ſo dotted or divided, if it were to be wrapped round the barrel, would ſhew the places where all the pins are to ſtand in the barrel: for the dots running about the table, are the places of the pins that play the tunes.

The notes of the hundredth Pſalm.



A table fo[illegible]ing the chime-barrel of the hundredth Pſalm.

If you would have your chimes complete, you ought to have a ſet of bells to the gamut notes, ſo as that each bell having the true ſound of ſol, la, mi, fa, you may play any tune, with its flats and ſharps, nay even the baſs and treble, with one barrel. And by ſetting the names of your bells at the head of any tune, you may transfer that tune to your chime-barrel, without any ſkill in muſic: but obſerve that each line in the muſic is three notes diſtant, that is, there is a note between each line, as well as upon it.

CHIMIN, or CHEMIN, in law, denotes a road, or way. Hence,

CHIMINAGE is a toll for wayfaring, or paſſage, through a foreſt.

CHIMNEY, in architecture, a particular part of a houſe, where the fire is made, having a tube or funnel to carry away the ſmoke.

The parts of the chimney are the jambs, or ſides, coming out perpendicularly, ſometimes circularly, &c. from the back; the mantle-tree, which reſts on the jambs; the tube, or funnel, which conveys away the ſmoke; the chimney-piece, or moulding, which is on the fore ſide of the jambs, over the mantle-tree; and the hearth, or fire-place.

The rules for building chimneys are, 1. That no timber be laid within twelve inches of the fore ſide of the chimney-jambs. 2. That all the joiſts on the back of any chimney be laid with a trimmer. 3. That no timber be laid within the funnel of any chimney.

The proportion for CHIMNIES. Palladio lays down the following proportions for the breadth and depth on the inſide, and for their height to their mantle-tree.

Chimnies in	Breadth.	Height.	Depth.
Halls	6, 7, or 8 feet	4 ½ or 5 feet.	2 ½ or 3 feet.
Chambers	5 ½, 6, or 7 feet.	4 or 4 ½ feet.	2 or 2 ½ feet.
Studies and wardrobes	4, 4 ½, or 5 feet.	4 or 4 ½ feet.	2 or 2 ½ feet.

Nevertheleſs in theſe points a workman ſhould be rather governed by the modern faſhions, than by the dictates of an antient architect.

Wolfius directs that the breadth of the aperture at the bottom be to the height as 3 to 2, and to the depth as 4 to 2.

In ſmall apartments the breadth is 3 feet, in bed-chambers 4, in larger apartments 5, in ſmall banqueting rooms 5 ½, in larger 6; but the height ſhould never exceed 2 ½, leſt there be too much room for air and wind, and the ſmoke be driven into the room: nor muſt the height be too little, leſt the ſmoke miſs its way and be choaked at firſt ſetting out. The ſame author adviſes to have an aperture thro' which the external air may, on occaſion, be let into the funnel, to drive up the ſmoke, which the internal air would otherwiſe be unable to do.

Some make the funnel twiſted, to prevent the ſmoke's deſcending too eaſily; but a better expedient is, to make the funnel narrower at bottom than at top; the fire impelling it up more eaſily, when contracted at the bottom; and in mounting it finds more ſpace to diſengage itſelf, and therefore will have leſs occaſion to return into the room.

Mr. Felibien directs, that the mouth of the tube, or that part joined to the chimney back, be made a little narrower than the reſt, that if the ſmoke be repelled downwards, it may be prevented from getting into the room by this obſtacle.

To

To prevent smoking chimnies, Mr. Lucas advises to leave two holes, or make two pipes in the chimnies, one over the other on each side, one sloping upwards, the other downwards; through these holes or pipes, says he, the smoke will easily pass out of any funnel which way soever the wind blows.

Philip d'Orme advises to provide a hollow brass-ball, of a reasonable capacity, with a small hole on one side, for the putting in water; that this ball be hung up in the chimney, at a little height above the greatest flame (with the hole upwards) by an iron wire that shall traverse the chimney, a little above the mantle-tree, where, as the water grows hot, it will rarefy, and drive through the hole or aperture in a vapoury steam, that will throw up the smoke, which would otherwise linger in the funnel.

Others place a kind of moveable vane or weather-cock on the top of the chimney, so that what way soever the wind comes, the aperture of the chimney will be screened, and the smoke have free egress.

But the best prevention of a smoking chimney seems to be in the proper placing of the doors of a room, the apt reclination of the back, and the due gathering of the wings and breast of a chimney.

CHIMNEY-HOOKS are hooks of steel or brass put into the jambs of chimnies, one into each jamb, for the handle of the fire-tongs and fire-pan to rest in.

CHIMNEY-JAMBS, the sides of a chimney, sometimes standing out perpendicularly, sometimes circularly, from the back, on the extremities whereof the mantle-tree rests.

CHIMNEY-MONEY, or HEARTH-MONEY, a tax imposed by statute 14 Car. II. expressing that every fire-hearth and stove of every dwelling or other house within England and Wales, except such as pay not to church and poor, shall be chargeable with two shillings *per annum*, payable at Michaelmas and Ladyday, to the king and his heirs. This tax being much complained of, as burdensome to the people has been abolished, and instead of it the window-tax was granted.

CHIMNEY-PIECE, a composition of certain mouldings of wood or stone, standing on the fore side of the jambs, and coming over the mantle-tree.

CHIMPANZEE, in zoology, the name of a species of angola-monkey, very much resembling the human shape; the males of which are so bold and fierce as to fight an armed man: they naturally walk erect, and are said to set upon and ravish the negroe women, when they meet them in the woods.

CHINA, including Chinese Tartary, a large empire, situated between 95° and 135° east longitude, and between 21° and 55° north latitude, being accounted two thousand miles in length, and one thousand five hundred in breadth; it is bounded by Russian Tartary on the north, by the Pacific ocean on the east and south, and by Tonquin, Tibet, and the territories of Russia on the west. It is usually divided into sixteen provinces, which will be described in their alphabetical order. In these provinces there are computed to be one hundred and fifty-five capital cities, one thousand three hundred and twelve of the second rank, two thousand three hundred and fifty-seven fortified towns, and upwards of ten millions of families, which may amount to about fifty millions of people.

The principal commodities of this country are silk, tea, china-ware, japan-ware, and gold dust; of all which the maritime states of Europe import great quantities, sending them silver in return.

CHINA-CHINA, in pharmacy, the same with quinquina. See QUINQUINA.

CHINA-ROOT, in pharmacy, a medicinal root, brought both from the East and West-Indies, thence distinguished into oriental and occidental; it is the root of the plant smilax. See SMILAX.

The oriental root is brought to us in large pieces, from several parts in the East-Indies. The occidental is brought from Peru and the Brasils. This root is to be chosen hard and firm, of a faint red colour, free from worms and rottenness, and such as on chewing fills the mouth with a soft unctuous moisture.

This root is a sudorific and an attenuant, and is therefore calculated to do great service in many chronic cases: it is best given in decoction, and is usually combined with sarsaparilla and guaiacum; an ounce of it, sliced thin, is the usual proportion to a quart.

CHINA-WARE, a fine kind of earthern-ware, otherwise called porcelain. See the article PORCELAIN.

CHINCA, a port-town of Peru, in South-America, situated in an extensive valley, on a river of the same name, about sixty miles south of Lima: west longitude 76°, and south latitude 13°.

CHIN-COUGH, a convulsive kind of cough,

cough, which children are chiefly ſubject to, proceeding from a tough, viſcid, and acid matter, lodged in the coats of the ſtomach, which when they vomit, they are eaſy for a time.

Sometimes this diſorder proceeds from a more dangerous cauſe, which is a certain ſalt communicated to tender bodies by means of the air, which coagulates the lymph, and which growing ſharp and ſtagnating, affects the larynx.

In the cure of this cough, particular care muſt be had to the ſtomach, and without a vomit the cure can hardly be effected. Sperma ceti in broth is of excellent uſe; but by bleedings and repeated purges this cough may be cured, without other means; yet the milder cathartics ought here to take place. Drinks and liquid aliments ſhould alſo be taken in leſs quantity than uſual.

CHINE, in the manege, the ſame with a horſe's back bone.

CHINESE, in general, denotes any thing belonging to China. See CHINA.

It is obſerved by ſome, that the chineſe language has no analogy with any other language in the world: it only conſiſts of three hundred and thirty words, which are all monoſyllables, at leaſt they are pronounced ſo ſhort that there is no diſtinguiſhing above one ſyllable or ſound in them; but the ſame word, as pronounced with a ſtronger or weaker tone, has different ſignifications; accordingly when the language is accurately ſpoke, it makes a ſort of muſic, which has a real melody, that conſtitutes the eſſence and diſtinguiſhing character of the chineſe tongue.

As to the chineſe characters, they are as ſingular as the language; the chineſe have not, like us, any alphabet, containing the elements, or, as it were, the principles of their words: inſtead of an alphabet they uſe a kind of hieroglyphics, whereof they have above eighty thouſand.

CHINEY, a city of the auſtrian Netherlands, on the confines of the biſhopric of Liege, about twelve miles ſouth-eaſt of Namur: eaſt longitude 5°, and north latitude 50° 20′.

CHINON, a town of France, in the province of the Orleanois, about twenty three miles ſouth-weſt of Tours: eaſt longitude 20′, and north latitude 47°, 15′.

CHIO, CHIOS, XIO, or SCIO, an aſiatic iſland, lying near the coaſt of Ionia, in Natolia, or leſſer Aſia, about one hundred miles weſt of Smyrna. It is called by the Turks Sakiſaduci, and is about one hundred miles in circumference; being chiefly inhabited by chriſtians of the greek church, who are ſaid to have three hundred churches in the iſland.

CHIO is alſo the capital of the above iſland, ſituated on the eaſt coaſt: eaſt longitude 27°, and north latitude 38°.

CHIONANTHUS, SNOW-DROP-TREE, in botany, a genus of the diandria monogynia claſs of plants: the corolla conſiſts of a ſingle petal, and is divided into four parts; the tube is very ſhort, no longer than the cup, and is petalous; the limb is divided into four extremely long ſegments, which are erect, acute, of a linear figure, and ſomewhat uneven; the fruit is a roundiſh unilocular berry, containing a ſingle ſtriated oſſicle for ſeed.

CHIOZZO, or CHIOGGIO, a town on an iſland of the ſame name, in the gulph of Venice, by which there is a paſſage into the Lagunes, ſituated about twelve miles ſouth of the city of Venice.

CHIPPENHAM, a borough-town in Wiltſhire, about twenty-two miles north-weſt of Saliſbury: weſt longitude 2° 12′, and north latitude 51° 25′.

It ſends two members to parliament.

CHIPPING, a phraſe uſed by the potters and china-men to expreſs that common accident both of our own ſtone and earthen ware, and the porcelain of China, the flying off of ſmall pieces, or breaking at the edges. Our earthern wares are particularly ſubject to this, and are always ſpoiled by it before any other flaw appears in them. Our ſtone wares eſcape it better than theſe, but leſs than the porcelain of China, which is leſs ſubject to it than any other manufacture in the world. The method by which the Chineſe defend their ware from this accident, is this: they carefully burn ſome ſmall bambou canes to a ſort of charcoal, which is very light, and very black; this they reduce to a fine powder, and then mix it into a thin paſte, with ſome of the varniſh which they uſe for their ware: they next take the veſſels when dried, and not yet baked, to the wheel, and turning them ſoftly round, they, with a pencil dipt in this paſte, cover the whole circumference with a thin coat of it: after this, the veſſel is again dried, and the border made with this paſte appears of a pale greyiſh colour when it is thoroughly dry. They work on it afterwards in the common way covering both

both this edge and the reft of the veffel with the common varnifh. When the whole is baked on, the colour given by the afhes difappears, and the edges are as white as any other part; only when the baking has not been fufficient, or the edges have not been covered with the fecond varnifhing, we fometimes find a dufky edge, as in fome of the ordinary thick tea-cups.

It may be a great advantage to our Englifh manufacturers to attempt fomething of this kind. The willow is known to make a very light and black charcoal; but the elder, tho' a thing feldom ufed, greatly exceeds it. The young green fhoots of this fhrub, which are almoft all pith, make the lighteft and the blackeft of all charcoal; this eafily mixes with any liquid, and might be eafily ufed in the fame way that the Chinefe ufe the charcoal of the bambou cane, which is a light hollow vegetable, more refembling the elder fhoots than any other Englifh plant. It is no wonder that the fixed falt and oil contained in this charcoal fhould be able to penetrate the yet raw edges of the ware, and to give them in the fubfequent baking a fomewhat different degree of vitrification from the other parts of the veffel, which, tho' if given to the whole, it might take off from the true femivitrified ftate of that ware, yet at the edges is not to be regarded, and only ferves to defend them from common accidents, and keep them entire.

The Chinefe ufe two cautions in this application; the firft in the preparation; the fecond in the laying it on. They prepare the bambou canes for burning into charcoal, by peeling off the rind. This might eafily be done with our elder fhoots, which are fo fucculent, that the bark ftrips off with a touch. The Chinefe fay, that if this is not done with their bambou, the edges touched with the pafte will burft in the baking: this does not feem indeed very probable; but the charcoal will certainly be lighter made from the peeled fticks, and this is a known advantage. The other caution is, never to touch the veffels with hands that have any greafy or fatty fubftance about them; for if this is done, they always find the veffel crack in that place.

Chipping, or Much-Wiccomb, a borough-town of Buckinghamfhire, about ten miles fouth of Ailefbury: weft longitude 42′, and north latitude 51° 35′. It fends two members to parliament.

CHIRAGRA, in medicine, a term ufed to denote the gout in the hand or wrift. See the article Gout.

CHIROGRAPH, *chirographum*, in the time of the Saxons, fignified any public inftrument of gift or conveyance, attefted by the fubfcription and croffes of witneffes. Formerly, when they made a chirograph, or deed, which required a counter part, they ingroffed it twice upon one piece of parchment, counterwife, having a fpace between, wherein was wrote Chirograph, through the middle whereof the parchment was cut, fometimes ftraight, fometimes indentedly, and a moiety given to each of the parties.

Chirograph was alfo antiently ufed for a fine: the manner of ingroffing the fines, and cutting the parchment in two pieces, is ftill retained in the chirographer's office.

CHIROGRAPHER *of fines*, an officer in the common pleas, who ingroffes fines acknowledged in that court, into a perpetual record (after they are examined and paffed by other officers) and writes and delivers the indentures thereof to the parties, one for the buyer, and another for the feller. He makes a third indented piece, containing alfo the effect of the fine, which he delivers over to the cuftos brevium, and is called the foot of the fine. The chirographer alfo, or his deputy, proclaims all the fines in the court every term, according to the ftatutes, and then repairing to the office of the cuftos brevium, there endorfes the proclamations on the backfide of the foot thereof, keeping withal the writ of covenant, and alfo the note of the fine.

CHIROGRAPHY, χειρογραφια, a writing under one's own hand.

CHIROMANCY, χειρομαντεια, a fpecies of divination, drawn from the different lines and lineaments of a perfon's hand; by which means, it is pretended the inclinations may be difcovered.

CHIRONIA, in botany, a genus of the pentandria-monogynia clafs of plants: the corolla is formed of a fingle petal, and is equal; the tube is roundifh, and of the fize of the cup; the limb is divided into five equal oval fegments, and patent; the fruit is of an oval figure, and contains two cells; the feeds are numerous and fmall.

CHIRONOMY, *chironomia*, in antiquity, the art of reprefenting any paft tranfaction by the geftures of the body, more efpecially by the motions of the hands: this made a part of liberal education; it had

had the approbation of Socrates, and was ranked by Plato among the political virtues.

CHIROTONY, *chirotonia*, among ecclesiastical writers, denotes the imposition of hands used in conferring priestly orders. See the article ORDINATION.

However, it is proper to remark, that chirotony originally was a method of electing magistrates, by holding up of hands.

CHIRVAN, a province of Persia, lying on the western coast of the Caspian sea.

CHIRURGEON, the same with surgeon. See the article SURGEON.

CHIRURGERY, or SURGERY. See the article SURGERY.

CHISLEY-LAND, in agriculture, a soil of a middle nature between sandy and clayey land, with a large admixture of pebbles.

CHISSEL, an instrument much used in carpentry, masonry, joinery, sculpture, *&c.* and distinguished according to the breadth of the blade into half-inch chissels, quarter-inch chissels, *&c.* They have also different names according to the different uses to which they are applied; as, 1. The former, used by carpenters, *&c.* just after the work is scribed: it is struck with a mallet. 2. The paring-chissel, which is used in paring off the irregularities made by the former: this is pressed with the workman's shoulder. 3. The skew-former cleanses acute angles with the point of its narrow edge. 4. The mortice-chissel, used in cutting deep square holes in wood, for mortices: it is narrow, but thick and strong, to endure hard blows. 5. Socket-chissels, having their shank made with a hollow socket at top, to receive a strong wooden sprig fitted into it with a shoulder. 6. Ripping-chissel, having a blunt edge, with no basil, used in tearing two pieces of wood asunder. And, 7. The gouge. See the article GOUGE.

CHITOR, a city of Piedmont, in Italy, situated on the river Po, about ten miles north of Turin: east longitude 7° 35′, and north latitude 45° 12′.

This is also the name of a province and city in the hither India, subject to the mogul: east longitude 76°, and north latitude 23° 30′.

CHITTING, among gardeners, is said of a seed when it first puts forth its slender roots.

CHIVALRY, in law, is a tenure of service, whereby the tenant is bound to perform some noble or military office to his lord; and is either regal, when held only of the king; or common, such as may be held of a common person as well as the king: the former is properly called serjeanty, and the latter escuage. See the articles SERJEANTY and ESCUAGE.

A statute of Charles II. abolishes all tenures by chivalry, in capite, *&c.* and ordains that all tenures shall be construed to be free and common soccage.

CHIUDENDO, in music, is the ending or finishing: thus we say, chiudendo col ritornello, col aria, to end with a ritornello, or with an air. See the article RITORNELLO.

CHIVES, among gardeners, denote the same with the antheræ or apices of botanists. See the article ANTHERÆ.

Some also call the whole stamina of plants chives. See the article STAMINA.

CHIVES is also the english name of a very small species of onion. See ONION.

CHIUSI, a city of Italy, in the dutchy of Tuscany, situated on the confines of the pope's territories, about thirty-five miles south-east of Sienna: east of longit. 13°, and north latitude 43°.

CHLÆNA, in antiquity, a winter-garment, worn over the tunica.

It was likewise used as a covering for a bed.

CHLAMYS, in antiquity, a military habit worn by the antients over the tunica. It belonged to the patricians, and was the same in the time of war, that the toga was in the time of peace. This sort of gown was called picta, from the rich embroidery with figures in phrygian-work; and purpurea, because the ground-work was purple. The chlamydes of the emperors were all purple, adorned with a golden or embroidered border.

CHLOROSIS, in medicine, a disease commonly called the green-sickness, incident to girls, maids, widows, and even wives whose husbands are deficient.

Various are the symptoms of this disorder, as a feverish habit of body, vomiting, difficulty of breathing, and longing for unnatural foods.

As to the cure, Astruc recommends borax, mineral waters, electuaries made of preparations of steel, the martial flowers, *&c.* asa fœtida, aloes and myrrh, emollient baths, frequent evacuations, and exercise; but above all, matrimony.

CHOCOLATE, in commerce, a kind of paste

paste, or cake, prepared of certain drugs, the basis of which is the cacao nut. See the article Cacao.

The Indians, in their first making of chocolate, used to roast the cacao in earthen pots, and having afterwards cleared it of the husks, and bruised it between two stones, they made it into cakes with their hands. The Spaniards improved this method: when the cacao is properly roasted, and well cleaned, they pound it in a mortar, to reduce it into a coarse mass which they afterwards grind on a stone, till it be of the utmost fineness: the paste being sufficiently ground, is put quite hot into tin moulds, in which it congeals in a very little time. The form of these moulds is arbitrary; the cylindrical ones, holding two or three pounds, are the most proper, because the bigger the cakes are, the longer they will keep. Observe, that these cakes are very liable to take any good or bad scent, and therefore they must be carefully wrapt up in paper, and kept in a dry place. Complaints are made, that the Spaniards mix with the cacao-nuts too great a quantity of cloves and cinnamon, besides other drugs without number, as musk, ambergrise, &c. The grocers of Paris use few or none of these ingredients; they only choose the best nuts, which are called caracca, from the place from whence they are brought, and with these they mix a very small quantity of cinnamon, the freshest vanilla, and the finest sugar, but very seldom any cloves. Among us in England, the chocolate is made of the simple cacao, excepting that sometimes sugar, and sometimes vanilla is added.

Chocolate ready made, and cacao-paste, are prohibited to be imported from any part beyond the seas. If made and sold in Great-Britain, it pays inland duty 1 s. 6 d. *per* ℔ averdupoise: it must be inclosed in papers containing one pound each, and produced at the excise-office, to be stamped. Upon three days notice given to the officer of excise, private families may make chocolate for their own use, provided no less than half an hundred weight of nuts be made at one time.

CHOENIX, χοινιξ, in antiquity, signifies fetters in which the legs of criminals were made fast, as we are informed by Aristophanes, in his Plutus, where speaking of an insolent slave, he saith,

αἱ κνημαι δε σου βοουσιν
Ιου, ιου' τας χοινικας ϗ τας πεδας ποθουσαι.

That is as much as to say, Your legs are itching for the stocks.

Choenix was also a dry measure, containing a forty-eighth part of a medimnus, or six bushels. Hence the celebrated proverb of Pythagoras, *Super chœnice ne sedeas*; which is differently interpreted. See Plutarch in Symposiacis, Dem. Byz. apud Athenæum, &c.

CHOIR, that part of the church or cathedral where choristers sing divine service: it is separated from the chancel, where the communion is celebrated; and also from the nave of the church, where the people are placed; the patron is said to be obliged to repair the choir of the church. It was in the time of Constantine that the choir was separated from the nave. In the XIIth century, they began to inclose it with walls; but the antient balustrades have been since restored, out of a view to the beauty of architecture.

The choir in nunneries, is a large hall adjoining to the body of the church, separated by a grate, where the nuns sing the office.

CHOLAGOGUES, medicines which purge the bile.

Of this kind are manna, cassia, roses, sena, rhubarb, aloes, jalap, scammony, &c. There is some reason to think that antimonial medicines act more powerfully on the bile than any other remedies.

CHOLEDOCHUS, in anatomy, is a common epithet for the gall-bladder, the hepatic vessels, and the common gall-duct which communicates with the duodenum.

CHOLER, or Bile. See Bile.

CHOLERA morbus, in medicine, the same with the bilious fever. See Bilious.

CHOLIC, or rather Colic. See Colic.

CHOMELIA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of one infundibuliform or funnel-fashioned petal, the limb of which is divided into five oval and reflex segments: the fruit is a roundish bilocular berry, containing four seeds, gibbose on one side, and angulated on the other.

CHONAT, a town of Hungary, situated on the river Merish, about thirteen miles east of Segedon, and subject to the house of Austria: east longitude 21° 20′, and north latitude 46° 22′.

CHONDRILLA, in botany, a genus of the syngenesia-polygamia-æqualis class of plants, the compound flower of which is

is imbricated and uniform, the proper one monopetalous, ligulated, linear, truncated, and four or five times dentated; there is no pericarpium; the cup is of a cylindrical figure, containing ſolitary, ovated, compreſſed, ſcabrous ſeeds.

CHONDROGLOSSUM, in anatomy, the name of a pair of muſcles ariſing from the cartilaginous proceſs of the os hyoides, and meeting in the baſe of the tongue, where they are inſerted: this pair is not found in all ſubjects.

CHONDROPTERYGII, in ichthyology, one of the five orders or ſubdiviſions of fiſhes, the characters of which are theſe: the rays of the fins are cartilaginous, differing in little from the membrane that conſtitutes the fin; they have likewiſe cartilages inſtead of bones; and the mouth is for the moſt part ſituated in the lower part of the body.

Of this order there are only four genera, *viz.* the petromyzon, accipenſer, ſqualus, and raja. See the articles PETROMYZON, ACCIPENSER, *&c.*

CHOP-CHURCH, a nick-name given to parſons who make a practice of exchanging benefices.

It is uſed by an old ſtatute in the ſenſe of a trade; but Brooke, in his Abridgment, ſays it was only permiſſible by law.

CHOPIN, or CHOPINE, a liquid meaſure, uſed both in Scotland and France, and equal to half their pint. See the articles PINT and MEASURE.

CHORAGIUM, in antiquity, denotes all the theatrical habits, and other implements belonging to the chorus, and likewiſe the place where they were kept.

CHORAGIUM likewiſe ſignified the exequies of a young woman, who died before ſhe was marriageable.

CHORAGUS, in antiquity, the principal perſon or leader in the chorus.

The choragus hired the players, ſingers, dancers, *&c.* at the celebration of public feſtivals; in which ſenſe he anſwers to our manager. See the article CHORUS.

CHORASSAN, a province of Perſia, on the north eaſt, adjoining to Uſbec Tartary; this was the antient Bactria, and the native country of the late Kouli Kan.

CHORD, in geometry, a right line drawn from one part of an arch of a circle to the other. Hence,

CHORD *of an arch* is a right line joining the extremes of that arch: thus A B is the chord of the arch A E B, plate XLI. fig. 7.

CHORD *of the complement of an arch*, the chord that ſubtends the reſt of the arch, or ſo much as makes up the arch a ſemi-circle.

It is demonſtrated in geometry, that the radius C E (*ibid.*) biſecting the chord B A in D, does alſo biſect the arch in E, and is perpendicular to the chord A B. From hence may be deduced theſe problems: 1. To make a circle paſs through any three given points, not lying in a right line. 2. To find the center of any circle. 3. To complete a circle from an arch given. 4. To deſcribe a circle about any triangle given.

Line of CHORDS, one of the lines of the ſector and plane ſcale. See its deſcription and uſe under SECTOR and SCALE.

CHORDS or CORDS, in muſic, are ſtrings, by the vibration of which the ſenſation of ſound is excited, and by the diviſions of which the ſeveral degrees of tune are determined. See TUNE and SOUND.

The chords of muſical inſtruments are ordinarily made of cat-gut; though ſome are made of braſs or iron wire, as thoſe of harpſichords, ſpinnets, *&c.* Chords of gold-wire in harpſichords, would yield a ſound almoſt twice as ſtrong as thoſe of braſs; and thoſe of ſteel a feebler ſound than thoſe of braſs, as being both leſs heavy and leſs ductile.

Mr. Perrault obſerves, that of late they have invented a way of changing the chords, to render their ſounds more ſtrong without altering the tone.

The ſixth chord of baſs-viols, and the tenth of large theorbo-lutes, conſiſt of fifty threads, or guts, ſome of which are an hundred feet long, twiſted and poliſhed with equiſetum, or horſe tail.

The rules for dividing chords ſo as to conſtitute any given interval, are as follow: 1. To aſſign ſuch part of a chord A B as ſhall conſtitute any concord; for example, a fifth, or any other interval, with the whole cord: divide the line A B into as many parts as the greateſt number of the interval has units; thus the fifth being 2 : 3, the line is divided into

A————+————C————B

three parts: of theſe take as many as the leſſer number 2 = A C, then is A C the part ſought; that is, two lines whoſe lengths are to each other as A B to A C, make a fifth. Hence if it be required to find ſeveral different ſections of the line A B, for inſtance, ſuch as ſhall be octave, fifth, or third greater; reduce the given ratios

ratios 1 : 2, 2 : 3, and 4 : 5 to one fundamental, the feries becomes 30 : 24, 20 : 15, the fundamental is 30, and the fections fought are 24 the third greater, 20 the fifth, and 15 the octave.

2. To find feveral fections of a line A, that from the leaft part gradually to the whole, fhall contain a given feries of intervals in any given order, *viz.* fo as the leaft to the next greater contain a third greater; that to the next greater, one fifth; and that to the whole, an octave. Reduce the three ratios 4 : 5, 2 : 3, and 1 : 2 to one feries; hence we have 8 : 10, 15 : 30. Divide the line into the number of parts of the greateft extreme of the feries, *viz.* 30, and you have the fections fought of the points of divifion, anfwering the feveral numbers of the feries, *viz.*

A—8—10—15——B
C D E

at the points C, D, and E; fo as A C, to A D is a third, A D to A E a fifth, A D to A B an octave.

3. To divide a line A B into two parts, to contain betwixt them any interval, *e. g.* a fourth. Add together the numbers containing the ratio of the interval, for example 3 : 4, and divide the line into as many parts as the fum, 7; the point of divifion anfwering to any of the given numbers 4 or 7, gives the thing fought.

A—|—|—|—4—|—|—7 B
C

4. To find two fections of a line, which with the whole fhall be in harmonical proportion with regard to their quantity. Take any three numbers in harmonical proportions, as 3—4—6, and divide the whole line into as many parts as the greateft of thefe three numbers, 6; and at the points of divifion anfwering the two other numbers, 3 and 4, you have the fection fought.

5. To find two fections of a line, which together with the whole, fhall be harmonical with refpect to quantity or tune. Take any three numbers, concords with each other, *e. g.* 2 : 3 and 8, and divide the line by the greateft: the points of divifion anfwering to the other two, give the fection fought.

6. To divide a chord A B in the moft fimple manner, fo as to exhibit all the original concords. Divide the line into two equal parts at C, and fubdivide the part C B into equal parts at D, and again the part C D into equal parts at E.

A——C E D——B

Here A C : A B is an octave, A C : A D a fifth, A D : A B a fourth, A C : A E a third greater; A E : A D a third lefs; A E : E B, a fixth greater; A E : A B a fixth lefs.

CHORD is alfo ufed in mufic for the note or tone to be touched or founded: in this fenfe the fifth is faid to confift of five chords or founds.

CHORD, *chorda*, in anatomy, a little nerve compofed by a combination of ramuli of the fifth and feventh pairs, and extended in the manner of a chord, under the membrane of the drum of the ear. See the article TYMPANUM.

CHORDAPSUS, in medicine, a difeafe of the inteftines, when to the touch they feel like ftretched cords: it is the fame with the iliac paffion. See the article ILIAC PASSION.

CHORDEE, in medicine and furgery, a fymptom attending a gonorrhœa, confifting in a violent pain under the frenum, and along the duct of the urethra, during the erection of the penis, which is incurvated downwards. Thefe erections are frequent and involuntary.

The chordee being a fqueezing of the corroded urethra between the cavernous bodies, and the erection being excited by the ftimulating matter of a gonorrhœa, the cure is to be performed by preferving the urethra from being corroded, or by fuppreffing the erection, by which means the preffure of the urethra will be prevented. The firft may be effected by mild diuretics, foftening emulfions, and cooling injections; but the laft can only be performed by thofe means that give the moft fudden check to the fwelling of the penis, fuch as immerfion in cold water.

It has been found by experience, that rubbing a mercurial ointment into the part affected, and along the duct of the urethra, has done confiderable fervice in this complaint.

CHOREA SANCTI VITI, ST. VITUS'S DANCE, in medicine. See the article VITUS'S DANCE.

CHOREPISCOPUS, or COUNTRY-BISHOP, an affiftant to a bifhop, firft introduced into the church when the diocefes became enlarged by the converfion of the pagans in the country and villages at

at a diſtance from the mother-church.

There are different opinions concerning the nature of this order: ſome think, that they were preſbyters, and never had epiſcopal ordination; others ſay, there were two claſſes of them, ſome that had epiſcopal ordination, and others that were ſimple preſbyters; and a third party imagine they were properly what we now call biſhops in partibus.

CHOREPISCOPUS is alſo the name of a dignity in ſome cathedrals in Germany, ſignifying the ſame with chori-epiſcopus, or biſhop of the choir. The firſt chanter in the church of Cologn is called chori-epiſcopus.

CHOREUS, in antient poetry, the ſame with trochæus, or trochee. See the article TROCHEE.

CHORGES, or GORGES, a town of Dauphiny, in France, about ſix miles eaſt of Gap: eaſt longitude 6°, and north latitude 44° 36′.

CHORIAMBUS, in antient poetry, a foot conſiſting of four ſyllables, whereof the firſt and laſt are long, and the two middle ones are ſhort; or, which is the ſame thing, it is made up of a trochæus and iambus: ſuch is the word nōbĭlĭtās.

CHORION, in anatomy, the exterior membrane which inveſts the fœtus in the uterus: it is thick, ſpungy, villoſe, and furniſhed with a vaſt apparatus of blood-veſſels. It is contiguous to the uterus, and is ſeparable into two membranes or parts.

CHORIST, or CHORISTER, one who ſings in the choir. See the article CHOIR.

CHOROBATA, or CHOROBATES, a kind of water-level among the antients, of the figure of the letter T, according to Vitruvius's deſcription. See LEVEL.

CHOROGRAPHY, the art of making a map of ſome country or province.

Chorography differs from geography, as the deſcription of a particular country does from that of the whole earth; and from topography, as the deſcription of a country differs from that of a town or diſtrict. See the articles GEOGRAPHY and TOPOGRAPHY.

CHOROIDES, in anatomy, an epithet of ſeveral membranes, which on account of the multitude of their blood-veſſels reſemble the chorion. See CHORION.

Choroides denotes the coat of the eye placed immediately under the ſclerotica, the inferior lamella of which is called tunica ruyſchiana; it is very full of veſſels, and coloured black.

Mr. Le Cat, in his deſcription of the parts of the eye, maintains Marriot's opinion of the choroid coat, and not the retina, being the immediate organ of viſion. The retina, according to him, is to the choroid, what the epidermis is to the ſkin.

Choroides is uſed for a portion of the pia mater. See the article PIA MATER.

Plexus CHOROIDES is a convolution of the membranes of the brain, conſiſting of an aſſemblage of veins and arteries.

CHORO-FAVORITO, in the italian muſic, a chorus in which are employed the beſt voices and inſtruments, to ſing the recitativos, play the ritornellos, &c. It is otherwiſe called the little chorus, or choro recitante.

CHORO-SPEZZATO, in the italian muſic, a compoſition of two, three, or four choruſſes. See the next article.

CHORUS, in dramatic poetry, one or more perſons preſent on the ſtage during the repreſentation, and ſuppoſed to be by-ſtanders without any ſhare in the action.

Tragedy in its origin was no more than a ſingle chorus, who trod the ſtage alone, and without any actors, ſinging dithyrambics or hymns in honour of Bacchus. Theſpis, to relieve the chorus, added an actor, who rehearſed the adventures of ſome of their heroes; and Æſchylus, finding a ſingle perſon too dry an entertainment, added a ſecond, at the ſame time reducing the ſinging of the chorus, to make more room for the recitation. But when once tragedy began to be formed, the recitative, which at firſt was intended only as an acceſſory part to give the chorus a breathing time, became a principal part of the tragedy. At length, however, the chorus became inſerted and incorporated into the action: ſometimes it was to ſpeak, and then their chief, whom they called coryphæus, ſpoke in behalf of the reſt: the ſinging was performed by the whole company; ſo that when the coryphæus ſtruck into a ſong, the chorus immediately joined him.

The chorus ſometimes alſo joined the actors in the courſe of the repreſentation, with their plaints and lamentations on account of any unhappy accidents that befel them: but the proper function, and that for which it ſeemed chiefly retained, was to ſhew the intervals of the acts: while the actors were behind the ſcenes, the chorus engaged the ſpectators; their ſongs uſually turned on what was exhibited, and were not to contain any thing but what was ſuited to the ſubject, and had a natural connection with it; ſo that the chorus concurred with the actors for-

advancing the action. In the modern tragedies the chorus is laid aside, and the fiddles supply its place. Mr. Dacier looks on this retrenchment as of ill consequence, and thinks it robs tragedy of a great part of its lustre; he therefore judges it necessary to re-establish it, not only on account of the regularity of the piece, but also to correct, by prudent and virtuous reflections, any extravagances that might fall from the mouths of the actors, when under any violent passion.

Mr. Dacier observed also, that there was a chorus, or grex, in the antient comedy; but this is suppressed in the new comedy, because it was used to reprove vices by attacking particular persons; as the chorus of the tragedy was laid aside to give the greater probability to those kind of intrigues which require secrecy.

To give the CHORUS, among the Greeks, was to purchase a dramatic piece of the poet, and defray the expences of representation. See the article CHORAGUS.

CHORUS, in music, is when, at certain periods of a song, the whole company are to join the singer in repeating certain couplets, or verses.

The word *chorus* is often placed in italian music, instead of *tutti*, or *da capella*, which mean the grand chorus. When after *chorus* we met with 1°, or *primo*, we must understand that it is to be played in the first chorus; if 2°, II°, or *secondo*, in the second; and, consequently, that the composition is for eight voices or different parts.

CHOSAIR, a town of Egypt, situated on the coast of the Red-sea.

CHOSE, in the common-law, is used with various epithets: as,

CHOSE *in action*, is an incorporeal thing, and only a right, as an annuity, bond, covenant, &c. and generally all causes of suit, for any duty or wrong, are accounted choses in action.

Choses in action may be also called choses in suspence, as having no real existence, and not being properly in our possession.

CHOSE LOCAL is any thing that is annexed to a place, such as a mill, &c.

CHOSE TRANSITORY, something moveable, and which may be taken away, or carried from place to place.

CHOTZIM, a frontier town of Moldavia, on the confines of Poland, situated on the river Neister, and subject to the Turks: east long. 27°, and north latit. 48°.

CHOUAN, in commerce, the levant name for the seed of a species of santolina, known among us by that of carmine-seed, from its being used in the preparation of that drug. See CARMINE.

CHOUGH, or CORNISH CHOUGH, in ornithology, a species of corvus. See the article CORVUS.

CHREMNITZ, or CHREMNITS, the principal of the mine-towns in upper Hungary, situated about sixty-eight miles north east of Presburg, and subject to the house of Austria: east longitude 19°, and north latitude 48° 45′.

CHREMPS, in ichthyology, a species of sparus, with the second ray of the belly-fins terminating in a kind of bristle.

CHRISM, χρισμα, oil consecrated by the bishop, and used in the romish and greek churches in the administration of baptism, confirmation, ordination, and extreme unction.

It is observed, that there are two kinds of chrism, the one prepared of oil and balsam, used in baptism, confirmation, and ordination; the other of oil alone, consecrated by the bishop, used antiently for the catechumens, and still in extreme unction.

The chrism is prepared on Holy-thursday with a world of ceremony: in Spain it was antiently the custom for the bishop to take one third of a sol for the chrism distributed to each church, on account of the balsam that entered its composition.

The action of imposing the chrism is called chrismation: this the generality of the romish divines hold to be the next matter to the sacrament of confirmation. The chrismation in baptism is performed by the priest, that in confirmation by the bishop.

CHRISM-PENCE, a tribute antiently paid to the bishop by the parish clergy for their chrism, consecrated at Easter for the ensuing year; this was afterwards condemned as simonical.

CHRISOM, *chrismale*, in antient customs, was the face-cloth, or piece of linen laid over the child's head when it was baptized; whence, in our bills of mortality, such children as die in the month, are called chrisoms; the time between the birth and baptism, was also called chrisomus.

CHRIST, χριστος, an appellation usually given to our Saviour, answering exactly to the hebrew messiah, and signifying one that is anointed. See MESSIAH.

It does not appear that Jesus Christ ever received any external sensible unction, and therefore his anointing must be un-

derstood in a figurative, spiritual sense, to denote his designation or appointment to the office of a messiah.

The Jews used to give this appellation to their kings. Now as the holy unction was given to kings, priests, and prophets, so by describing the promised saviour of the world under the name of anointed, it was sufficiently evidenced that the qualities of king, prophet, and high priest, would all evidently meet in him.

Order of CHRIST, a military order, founded in 1320, by Dionysius I. king of Portugal, to animate his nobles against the Moors.

The arms of this order are gules, a patriarchal cross, charged with another cross argent: they had their residence at first at Castromarin, afterwards they removed to the city of Thomar, as being nearer to the Moors of Andalusia and Estremadura.

CHRIST is also the name of a military order in Livonia, instituted in 1205, by Albert bishop of Riga. The end of this institution was to defend the new christians, who were converted every day in Livonia, but were persecuted by the heathens. They wore on their cloaks a sword with a cross over it, whence they were also denominated brothers of the sword.

CHRIST-CHURCH, a borough-town of Hampshire, thirty miles south-west of Winchester, near the sea-coast; west long. 2°, north lat. 50° 40′.

It sends two members to parliament.

CHRIST-THORN, in botany, a name given to the paliurus, a species of rhamnus. See the article RHAMNUS.

CHRISTENING, denotes the same with baptism. See the article BAPTISM.

CHRISTIAN, in a general sense, something belonging to Christ. See CHRIST.

CHRISTIAN CHURCH. See CHURCH.

CHRISTIAN COURT, *christianitatis curia*, the ecclesiastical or bishop's court, in contradistinction to the civil courts, which are called the king's courts, *curiæ domini regis*. See the article BISHOP'S-COURT.

Most CHRISTIAN *king*, *rex christianissimus*, one of the titles of the king of France.

The french antiquaries trace the origin of this appellation up to Gregory the great, who writing a letter to Charles Martel, occasionally gave him that title, which his successors have since retained.

CHRISTIAN NAME, that given at baptism. See the article NAME.

CHRISTIAN RELIGION, that instituted by Jesus Christ.

As the christian religion hath the purest and most abstracted, the highest and most rational spiritual notions, so has it been most subject to differences of opinions, and distractions of conscience; the several sects whereof are taken notice of under their proper heads.

If we consider the christian religion with regard to its principles, it cannot be denied but they are very obscure, and difficult to be understood, and its mysteries are above the reach of human comprehension. The obscurity of them is no doubt owing, in a great measure, to the subtilties introduced by several philosophers, who became proselytes to christianity in the first ages of the church, and who afterwards becoming doctors, endeavoured to explain the mysteries of the christian religion by arguments borrowed from the platonic and other pagan systems of philosophy. Their successors likewise, by their laboured explanations, added new obscurities to those which they found before; and the human passions insensibly blending with these systems, nothing more was wanting to render the christian religion an impenetrable mystery. To this, no doubt, is owing the origin of that number of sects and heresies which have sprung up in the church, each of which lays claim to a primitive purity of doctrine, the characteristic of divine inspiration, a right of superiority, and a perfect knowledge of the way to heaven; and there is not one which, indirectly at least, can forbear damning the rest who dissent from it.

The excellency of its morals, is a demonstration of the divine original of the christian religion. It consists not in idle philosophical speculations, or perpetual grimace and affectation, but in a steady practice of the duties it requires, without the least view of recompence from men: it neither seeks their admiration, nor attempts to dazzle their eyes and deceive them: there is no religion which excites man more to the love and practice of virtue, and hatred of vice, or that prescribes greater rewards for the one, or punishments for the other.

The christian religion, in regard to the practice of it, consists in the most exact imitation, that possibly can be conceived, of the infinite perfections of the supreme being: from hence we may derive that solid virtue, that power which it gives us to subdue our passions, and that satis-

tisfaction which we receive from the observance of those laws to the utmost of our abilities, which God has prescribed to mankind.

The characters of christianity are perfectly conformable to the attributes of the divine majesty. The moral part never indulges the passions: it has no other view than the preservation and happiness of mankind; nor have the most inveterate enemies of the christian faith ever invented any thing but what was much inferior to it, both in practice and speculation.

CHRISTIANS, those who profess to believe and practice the christian religion, and are baptized in the name of Jesus Christ.

When christianity was first planted in the world, those who embraced it were known among themselves by the names of disciples, believers, elect, saints and brethren: nor did they assume the name of christians till the year 43 at Antioch, where St. Paul and Barnabas jointly preached the christian religion. The primitive christians were known by several denominations. Epiphanius says they were stiled Jesseans, either from Jesse, the father of David, or, what is more probable, from Jesus, whose disciples they were. Eusebius says that they were called *therapeutæ*, i. e. worshippers of the true God, or spiritual physicians: and because the christian life took its original from the waters of baptism, the christians were wont to please themselves with the name *pisciculi*, i. e. fishes. Sometimes they stiled themselves *gnostics*, i. e. men of understanding and knowledge; which name being afterwards abused by a perverse sort of heretics, they added the title of christian to it, and gave themselves the name of christian-gnostics.

The christians had also many names of reproach cast upon them by their enemies, such as nazarens, galileans, greeks, impostors, atheists, &c. which last name was common, upon account of their deriding the worship of the heathen gods.

CHRISTIANS *of St. John*, a sect of christians very numerous in Balsara, and the neighbouring towns: they formerly inhabited along the river Jordan, where St. John baptized, and it was from thence they had their name. They hold an anniversary feast of five days, during which they all go to the bishop, who baptizes them with the baptism of St. John. Their baptism is also performed on rivers, and that only on Sundays; they have no notion of the third person in the trinity, nor have they any canonical book, but abundance full of charms, &c. Their bishoprics descend by inheritance, as our estates do, though they have the ceremony of an election.

CHRISTIANS *of St. Thomas*, a sort of christians in a peninsula of India, on this side of the gulph: they inhabit chiefly at Cranganor, and the neighbouring country: these admit of no images, and receive only the cross, to which they pay a great veneration: they affirm that the souls of the saints cannot see God till after the day of judgment: they acknowledge but three sacraments, *viz.* baptism, orders, and the eucharist: they make no use of holy oils in the administration of baptism, but after the ceremony anoint the infant with an unction composed of oil and walnuts, without any benediction. In the eucharist, they consecrate with little cakes made of oil and salt, and instead of wine, make use of water in which raisins have been infused.

CHRISTIANA, a town of Norway, in the province of Aggerhuys, situated on a bay of the sea, 100 miles north of Gottenburg; east long. 10° 15′, north lat. 59° 30′.

CHRISTIANOPLE, a port-town of Sweden, situated on the Baltic sea, in the territory of Bleking, and province of south Gothland, about thirteen miles north-east of Carelscroon: east long. 15° 40′, north lat. 57°.

CHRISTIANSTADT, a town of Sweden, situated on the river Helles, in the territory of Bleking, and province of south Gothland, forty-five miles west of Carelscroon; east long. 14° 40′, north lat. 56° 30′.

CHRISTMAS, a festival of the christian church, observed on the 25th of December, in memory of the nativity of Jesus Christ.

Whether this festival was always observed on the 25th of December, is a matter of doubt. Dr. Cave is of opinion, that it was first kept by the eastern church in January, and confounded with the epiphany, till, receiving better information from the western churches, they changed it to that day. St. Chrysostom affirms, that it was not above ten years since christmas began to be celebrated in the church of Antioch upon that day: Clemens Alexandrinus reckons from the birth of Christ to the death of Commodus, exactly 194 years, one month, and thirteen

thirteen days; which time, being taken according to the Egyptian account, and reduced to the Julian or Gregorian ſtile, makes the birth of Chriſt fall on the 25th or 26th of December: yet notwithſtanding this, the ſame father tells us, that there were ſome who, more curiouſly ſearching after the year and day of Chriſt's nativity, affixed the latter to the 25th of the month *pachon*. Now in that year in which Chriſt was born, the month *pachon* commenced the 20th of April, ſo that according to this computation, Chriſt was born on the 16th of May. Hence we may ſee how little certainty there is in this matter, ſince ſo ſoon after the event, the learned were divided in opinion concerning it. As to the antiquity of this feſtival, the firſt footſteps we find of it were in the ſecond century about the time of the emperor Commodus.

CHRISTMAS-ROSE, in botany, a name ſometimes given to a ſpecies of black hellebore. See the article HELLEBORE.

CHRISTOLYTI, in church-hiſtory, a ſect of chriſtian heretics, who maintained that Chriſt deſcended into hell body and ſoul, and that he left both there, aſcending into heaven with his divinity alone.

CHRISTOMACHI, an appellation given to all heretics who deny Chriſt's divinity, or maintain heterodox opinions concerning his incarnation.

CHRISTOPHER HERB, *chriſtophoriana*, in botany. See CHRISTOPHORIANA.

CHRISTOPHERS, or St. CHRISTOPHERS, one of the Caribbee-iſlands, to which Columbus gave his chriſtian name; weſt long. 62°, north lat. 17° 30'.

It is about twenty miles long, and ſeven broad; and has a high mountain in the middle, from whence ſome rivulets run down. Its produce is chiefly ſugar, cotton, ginger, and indigo. It is a britiſh colony, and lies about ſixty miles weſt of Antego.

CHRISTOPHORIANA, CHRISTOPHER-HERB, in botany, a genus of the polyandria-monogynia claſs of plants, called by Linnæus actæa; the flower of which is roſaceous, conſiſting of four petals: the fruit is a roundiſh, oval, unilocular berry, containing a number of ſemi-circular ſeeds, diſpoſed in a double row, with their ſtraight ſides towards each other.

CHROASTACES, in natural-hiſtory, a genus of pellucid gems, comprehending all thoſe of variable colours, as viewed in different lights; of which kind are the opal and the aſteria, or oculus cati. See the articles OPAL and ASTERIA.

CHROMA, in muſic, a note or character of time, uſually termed a quaver. See the articles CHARACTER and QUAVER.

Chroma is alſo a graceful way of ſinging, or playing with quavers and trilloes.

CROMATIC, in the antient muſic, the ſecond of the three kinds into which the conſonant intervals were ſubdivided into their concinous parts. The other two kinds are enharmonic and diatonic. See the article ENHARMONIC, &c.

The chromatic abounds in ſemitones: it had its name by reaſon the Greeks marked it with the character of colour, which they call χρωμα; or as P. Parran ſays, becauſe it is the medium between the other two, as colour is between black and white; or becauſe the chromatic kind varies, and embelliſhes the diatonic by its ſemitones, which have the ſame effects in muſic, as the variety of colours have in painting.

The degrees or elements of the chromatic genus, are the two ſemitones and triemitanium. Ariſtoxenus divides the chromatic genus into three ſpecies, the *molle*, *hemiolion*, and *tonicum*. Ptolemy into *molle*, or *antiquum*, and *intenſum*. The *molle* expreſſes a progreſſion by ſmall intervals, the *intenſum* by greater. The Spartans baniſhed it their city, becauſe of its ſoftneſs.

Mr. Malcolm obſerves, that we are at a loſs to know what uſe the antients could make of theſe diviſions and ſub-diviſions into genera and ſpecies. All acknowledge the diatonic to be the true melody: the others ſeem only numerous irregularities, calculated to pleaſe the fancy by their novelty and oddneſs; and are beſides ſo difficult, that few, if any, are ſaid to have practiſed them accurately. Notwithſtanding this cenſure of Malcolm, it is plain that the accidental flats and ſharps which belong to the chromatic genus, are the cauſe of that vaſt variety of airs to be found in the modern muſic.

CHROMATIC, in painting, a term uſed to ſignify the colouring, which makes the third part in the art of painting.

CHROMIS, in ichthyology, a name uſed for two very different kinds of fiſh, *viz.* a ſpecies of ſparus called alſo *chromis*, and the ſciæna with the upper jaw longeſt, and otherwiſe called *umbra*. See the articles SPARUS and SCIÆNA.

CHRONIC, or CHRONICAL, among phyſicians,

ficians, an appellation given to diseases that continue a long time, in contradistinction to those that soon terminate, and are called acute.

If health consists in a free and uninterrupted circulation of the vital juices through the vessels, and a disease is an interruption of this circulation, we may conceive that an acute distemper arises, when many and extensive obstructions occupy a great number of the vessels all of a sudden; for then the usual quantity of blood is impelled through a smaller space, and returns sooner to the heart: in consequence of this, the contractions of the heart are more frequent, the velocity of the circulating juices is greater, the reciprocal action between the solids and fluids is increased, and of course the heat of the body.

But when obstructions are formed by degrees, and by little at a time, however extensive they may become ultimately, no such sudden alteration is induced; but the vital powers, perhaps by discharging out of the body a portion of the superfluous juices, find a way of preserving the equilibrium betwixt the solids and fluids, and of adapting the circulating fluids to the capacity of the pervious vessels, without raising a degree of fever sufficient to impart the name of acute to the disorder. Chronical diseases then may be said to be produced in the body by some peccancy in the juices, either contracted insensibly and by degrees, or else left by some acute distemper ill cured.

CHRONICLE, χρονικον, in matters of literature, a species or kind of history, disposed according to the order of time, and agreeing in most respects with annals. See the article ANNALS.

The word chronicle is now become obsolete, being seldom used except in speaking of the old english histories, as Stow's chronicle, Holinshead's chronicle, &c.

Books of CHRONICLES, in the canon of scripture, two sacred books, called by the Greeks *paralipomena*, παραλειπόμενα, that is, remains, additions, or supplements, as containing many circumstances omitted in the other historical books.

In effect, the paralipomena, or chronicles, are an abridgment of sacred history to the return of the Jews from the babylonish captivity. The first book traces the genealogies of the Israelites from Adam, describes the death of king Saul, and gives a brief but accurate account of king David's reign. The second, as faithfully traces the progress of the kingdom of Juda, its various revolutions, its period under king Zedekiah, and the restoration of the Jews by Cyrus.

CHRONOGRAM, χρονογραμμα, a species of false writ, consisting in this, that a certain date or epocha is expressed by numeral letters of one or more verses: such is that which makes the motto of a medal struck by Gustavus Adolphus, in 1632:

ChrIstVs DVX, ergo trIVMphVs.

Such also are the two following verses, made on the duke of Weymar on taking Brisac, in 1638.

InVICto fortIs CeCIDIt BræIsæIs AChILLI,
IVngItVr & tanto DIgna pVeLLa VIro.

CHRONOLOGY, χρονολογια, the science or doctrine of time, in so far as it regards history, whether civil or ecclesiastical.

The business of chronology, is to ascertain and adjust the various epochas, æras, and other periods mentioned in history; so that the revolutions of empires and kingdoms, and other remarkable events, may be truly stated. See the articles ÆRA and EPOCHA.

It also takes a view of the various fasti, calendars, and methods of computing time practised by different nations; compares them together, and settles such order and harmony among them, that the exact time, in which any remarkable event happened, may be certainly known. It is to chronology, as Mr. Locke well observes, that history owes its use and beauty; as being, without it, a mere chaos, a jumble of facts confusedly heaped together, and consequently capable of affording neither pleasure nor instruction. See ALMANAC and CALENDAR.

To chronology also belongs the consideration of the lesser divisions of time, as hour, day, week, month, year, cycle, &c. See the articles HOUR, DAY, WEEK, &c.

Sir Isaac Newton's astronomical principles of CHRONOLOGY.—This illustrious author, in order to settle the grand epocha of the argonautic expedition, which he makes the basis of his chronology, makes use of the following astronomical principles.

He observes that Eudoxus, in his description of the sphere of the antients, placed the solstices and equinoxes in the middle of the constellations Aries, Cancer, Chelæ, and Capricorn: and also that this sphere or globe was first made by Musæus, and the asterisms delineated upon it by Chiron,

two of the Argonauts. Now it is well known, that by the preceffion of the equinoxes the ftars go back 50″ *per annum*. And fince, at the end of the year 1689, the equinoctial colure paffing through the middle point, between the firft and laft ftar of Aries, did then cut the ecliptic in ♉ 6° 44′, it is evident, that the equinox had then gone back 36° 44′; therefore, as 50″ is to one year, fo is 36° 44′ to 2645 years, which is the time fince the argonautic expedition to the beginning of the year 1690; that is 955 years before Chrift is the æra of the argonautic expedition.

But our great author is more particular and fubtile in this affair. He finds the mean place of the colure of the equinoxes and folftices, by confidering the feveral ftars they paffed thro' among other conftellations as follows, according to Eudoxus. In the back of Aries is a ftar of the fixth magnitude, marked γ by Bayer; in the end of the year 1689, its longitude was ♉ 9° 38′ 45″; and the equinoctial colure paffing through, according to Eudoxus, cuts the ecliptic in ♉ 6° 58′ 57″.

In the head of Cetus are two ftars of the fourth magnitude, called ν and ξ by Bayer. Eudoxus's colure, paffing in the middle betwixt them, cuts the ecliptic in ♉ 6°. 58′. 51″, at the end of the year 1689.

In the extreme flexure of Eridanus there was formerly a ftar of the fourth magnitude (of late it is referred to the breaft of Cetus.) It is the only ftar in Eridanus, through which the colure can pafs; its longitude was at the end of the year 1689 ♈ 25° 22′ 10″, and the colure of the equinox paffing through it cuts the ecliptic in ♉ 7° 12′ 40″.

In the head of Perfeus, rightly delineated, is a ftar of the fourth magnitude, called τ by Bayer; its longitude was ♉ 23° 25′ 30″, at the end of the year 1689; and the colure paffing through it cuts the ecliptic in ♉ 6° 18′ 57″. Alfo in the right-hand of Perfeus is a ftar of the 4th magnitude, whofe longitude at the end of the year 1689 was ♉ 24° 25′ 27″, and the equinoctial colure paffing through it cuts the ecliptic in ♉ 4° 56′ 40″.

Now the fum of all thefe five places of the colure, *viz.*	♉	6°	58′	57″
	♉	6	58	51
	♉	7	12	40
	♉	6	18	57
	♉	4	56	40
Is =	1	2	26	05

The fifth part of which is = ♉ 6° 29′ 13″, which is therefore the mean place in which the colure did, in the end of the year 1689, cut the ecliptic.

After a like manner he determines the mean place of the folfticial fummer colure, to be ♌ 6° 28′ 46″, which, as it is juft 90° from the other, fhews it to be rightly deduced. The equinoxes having then departed 1ˢ 6° 29′ from the cardinal points of Chiron, fhews that 2628 years have elapfed fince that time, which is more correct than the former number, though lefs by only 17 years. See PRECESSION.

By fome other methods of a like nature, he alfo fhews the æra of the Argonauts ought to be placed in that age of the world; and having fixed this moft antient epocha, he makes his computation, with reference thereto, in the future part of his book.

As to the authors who have written on this fcience, they are very numerous: among the moderns are Petavius, Voffius, Ufher, Sir Ifaac Newton, *&c.* and among the antients, Julius Africanus, Eufebius, *&c.* There is alfo an excellent treatife of chronology by the learned Strauchius, tranflated into englifh by Mr. Sault, F. R. S. and an ufeful compend by Mr. Wells.

CHRONOMETER, in general, denotes any inftrument, or machine, ufed in meafuring time: fuch are dials, clocks, watches, *&c.*

The term chronometer, however, is generally ufed in a more limited fenfe, for a kind of clock fo contrived as to meafure a fmall portion of time with great exactnefs, even to the fixteenth part of a fecond: of fuch a one there is a defcription in Defaguliers's experimental philofophy, invented by the late ingenious Mr. George Graham; which muft be allowed to be of great ufe for meafuring fmall portions of time in aftronomical obfervations, the time of the fall of bodies, the velocity of running waters, *&c.* But long fpaces of time cannot be meafured by it with fufficient exactnefs, unlefs its pendulum be made to vibrate in a cycloid; becaufe, otherwife, it is liable to err confiderably, as all clocks are which have fhort pendulums that fwing in large arches of a circle.

CHRONOSCOPE, denotes much the fame with chronometer. See the preceding article.

CHROSTASIMA, in natural hiftory, a genus of pellucid gems, comprehending

all those which appear of one simple and permanent colour in all lights: such are the diamond, carbuncle, ruby, garnet, amethyst, sapphire, beryl, emerald, and the topaz. See the articles DIAMOND, CARBUNCLE, &c.

CHRYSAETUS, or CHRYSAETOS, in ornithology, a name given to the eagle with a yellow cera or membrane, covering the base of the beak.

CHRYSALIS, in natural history, a state of rest and seeming insensibility which butterflies, moths, and several other kinds of insects, must pass through before they arrive at their winged or most perfect state. See the article BUTTERFLY.

The first state of these animals is in the caterpillar or reptile form; then they pass into the chrysalis-state, wherein they remain, immoveably fixed to one spot, and surrounded with a case or covering, which is generally of a conical figure; and, lastly, after spending the usual time in this middle state, they throw off the external case wherein they lay imprisoned, and appear in their most perfect and winged form of butterflies, or flies. See CATERPILLAR.

Through the whole course of this transformation, the animal remains the same, only surrounded with different coverings: in the caterpillar-form, it is a kind of fœtus or embryo, wrapped up in several coats, the limbs of which can only be discovered by the assistance of the microscope: in the chrysalis or nymph-state, it acquires a farther degree of maturity, and then the limbs, wings, &c. become perfectly distinct; and, at length, it disengages itself, and becomes an inhabitant of the air, adorned with a peculiar kind of plumage: in this last state the two sexes copulate, and the female lays her eggs, to be afterwards hatched into caterpillars, and to pass through the like changes with the parent insect.

CHRYSANTHEMUM, in botany, a genus of plants belonging to the syngenesia-polygamia-superflua class, the compound flower of which is radiated, the proper hermaphrodite one of a funnel-form, and the female ligulated, oblong, and tridentated. There is no pericarpium: the immutated cup contains, in the hermaphrodite, solitary, oblong, naked seeds; in the female, seeds very like those of the hermaphrodite.

The flowers of this plant being bruised with cerate, are said to discuss a steatoma.

CHRYSOBALANUS, in botany, a genus of the polyandria-monogynia class of plants, the flower of which consists of five ovated, plain, patent petals; the fruit is an ovated large berry, with one cell, containing an ovated, brittle, wrinkled kernel, with five furrows.

CHRYSOCOLLA, in natural history, a species of green ochre. See OCHRE.

CHRYSOCOMA, GOLDYLOCKS, in botany, a genus of plants, belonging to the syngenesia-polygamia-æqualis class of plants, the compound flower of which is tubulous, the proper one of a funnel-form, with a quinquifid limb. There is no pericarpium, but the cup scarcely immutated, contains solitary, ovato-oblong, compressed seeds, crowned with a hairy down.

CHRYSOGONUM, MOTH-MULLEIN, in botany, a genus of plants belonging to the syngenesia-polygamia-necessaria class: the universal flower is radiated; the proper hermaphrodite one is of a funnel-form quinquidentated and erect; the female one plain, oblong, truncated, and tridentated. There is no pericarpium: the immutated cup contains solitary, obverso-cordated, quadrangular seeds in the female; the hermaphrodites prove abortive.

CHRYSOLITE, in natural history, a gem which the antients knew under the name of the topaz; and the true chrysolite of the antients, which had its name from its fine gold-yellow colour, is now universally called topaz by modern jewellers. See the article TOPAZ.

The chrysolite of our times is found of various sizes: the most common, however, when purest and most valuable, is about the size of a nutmeg. It is of various figures, but never columnar, or in the figure of crystal. Sometimes it is found in roundish, irregular, pebble-like masses; at other times flat and oblong, but always with a rude surface. Its colour is a pale dead green, with an admixture of yellow; but the most usual tinge is the colour of an unripe olive, with somewhat of a brassy yellow. It is very soft in comparison of the other gems, and its finest pieces do not exceed crystal in hardness. It is found in New Spain and in several parts of Silesia and Bohemia. The american ones are greatly superior to the european, but are usually small: the bohemian are very large; and few of them are of a clear colour, or free from flaws.

CHRYSOLITE PASTE, a kind of glass made in imitation of natural chrysolite, by mixing

mixing two ounces of prepared cryſtal, with ten ounes of red-lead, adding twelve grains of crocus martis made with vinegar; and then baking the whole for twenty-four hours, or longer, in a well luted crucible.

CHRYSOMELA, in zoology, a genus of inſects with bracelet-like antennæ, thickeſt towards the extremities; the body of an oval form, and the thorax rounded. Of this genus, which belongs to the order of coleoptera, there are different ſpecies, denominated from the trees on which they feed, as the chryſomela of tanzy, beech, alder, willow, *&c.* ſome being of one colour, ſome of another, with a tinge of gold-colour diffuſed through it.

CHRYSOPHYLLUM, STAR-APPLE, in botany, a genus of the pentandria-monogynia claſs of plants; the flower of which is monopetalous and campanulated, with the limb divided into ten ſegments, alternately roundiſh and patulous, and narrow and erect; the fruit is a ſubovated large berry with one cell, containing three oſſeous ſeeds.

CHRYSOPRASUS, or CHRYSOPRASIUS, the tenth of the precious ſtones, mentioned in the Revelations, as forming the foundation of the heavenly Jeruſalem.

The chryſopraſius is a ſpecies of praſius, of a pale but pure green colour, with an admixture of yellow. See PRASIUS.

CHRYSOPS, GOLDEN-EYE, in zoology, a ſpecies of hemerobius, ſo called from the colour of its eyes. See the article HEMEROBIUS.

CHRYSOSPLENIUM, GOLDEN-SAXIFRAGE, in botany, a genus of the octandria-digynia claſs of plants, without any flower-petals, unleſs the cup, which is coloured, be reckoned ſuch: the fruit is an unilocular, two-horned capſule, containing a number of very minute ſeeds.

CHRYSOPLYCIUS PULVIS, a powder mentioned by Helmont, which, he ſays, procures hardneſs to lead, and difficulty of liquefaction to tin and mercury, but deprives iron of both theſe qualities.

CHRYSTAL, or CRYSTAL. See the article CRYSTAL.

CHRYSTALLINE and CHRYSTALLIZATION. See the articles CRYSTALLINE and CRYSTALLIZATION.

CHUB, or CHUBB, in ichthyology, the engliſh name of a ſpecies of cyprinus, with eleven rays in the pinna ani. See the article CYPRINUS.

When full grown, it is about a foot in length. See plate XLI. fig. 8.

CHUPMESSAHITES, a ſect of mahometans, who believe that Jeſus Chriſt was God, and the redeemer of the world; an opinion which they maintain with ſuch courage, as to chooſe to die rather than deny it.

This ſect is ſaid to be very numerous, though few dare make profeſſion of it openly. The word ſignifies as much as protectors of the chriſtians.

CHURCH, has different ſignifications, according to the different ſubjects to which it is applied. 1. It is underſtood of the collective body of chriſtians, or all thoſe over the face of the whole earth who profeſs to believe in Chriſt, and acknowledge him to be the ſaviour of mankind. This is what the antient writers call the catholic or univerſal church. Sometimes the word church is conſidered in a more extenſive ſenſe, and divided into ſeveral branches, as the church militant, is the aſſembly of the faithful on earth; the church triumphant, that of the faithful already in glory, to which the papiſts add the church patient, which, according to their doctrines, is that of the faithful in purgatory.

2. Church is applied to any particular congregations of chriſtians, who at one time, and in one place, aſſociate together and concur in the participation of all the inſtitutions of Jeſus Chriſt, with their proper paſtors and miniſters. Thus we read of the church of Antioch, the church of Alexandria, the church of Theſſalonica, and the like.

3. Church denotes a particular ſect of chriſtians diſtinguiſhed by particular doctrines and ceremonies. In this ſenſe we ſpeak of the romiſh church, the greek church, the reformed church, the church of England, *&c.*

The latin or weſtern church, comprehends all the churches of Italy, France, Spain, Africa, the north, and all other countries whither the Romans carried their language. Great Britain, part of the Netherlands, of Germany, and of the North, have been ſeparated from hence ever ſince the time of Henry VIII. and conſtitute what we call the reformed church, and what the romaniſts call the weſtern ſchiſm.

The greek or eaſtern church, comprehends the churches of all the countries antiently ſubject to the greek or eaſtern empire, and through which their language was carried; that is, all the ſpace extended from Greece to Meſopotamia and Perſia, and thence into Egypt. This church has been divided from the

roman,

roman, ever ſince the time of the emperor Phocas.

The gallican church, denotes the church of France, under the government and direction of their reſpective biſhops and paſtors. This church has always enjoyed certain franchiſes and immunities, not as grants from popes, but as derived to her from her firſt original, and which ſhe has taken care never to relinquiſh. Theſe liberties depend upon two maxims; the firſt, that the pope has no authority, or right to command or order any thing either in general or in particular, in which the temporalities and civil rights of the kingdom are concerned; the ſecond, that notwithſtanding the pope's ſupremacy is owned in caſes purely ſpiritual, yet, in France, his power is limited and regulated by the decrees and canons of antient councils received in that realm.

4. The word church is uſed to ſignify the body of eccleſiaſtics, or the clergy, in contradiſtinction to the laity. See CLERGY.

5. Church is uſed for the place where a particular congregation or ſociety of chriſtians aſſemble for the celebration of divine ſervice. In this ſenſe, churches are variouſly denominated, according to the rank, degree, diſcipline, *&c.* as metropolitan church, patriarchal church, cathedral church, parochial church, collegiate church, *&c.* See METROPOLIS, PATRIARCH, *&c.*

As to the form and faſhion of the primitive churches, it was for the moſt part oblong; which figure, we learn from the conſtitutions, was intended to repreſent a ſhip, the common ſymbol of the church of Chriſt; and as to the ſeveral parts of which they conſiſted in thoſe early ages, it appears that at the entrance of them was the veſtibulum or porch, called alſo atrium and πρόναον, adorned with cloiſters, marble columns, and ciſterns of water, where the loweſt order of penitents ſtood begging the prayers of the faithful as they went in: that the church itſelf conſiſted of the narthex, where ſtood the catechumens, the energumeni, and the hearers, who were one order of penitents; of the ναος, or nave, where the faithful aſſembled for the celebration of divine ſervice; and of the ἱερατεῖον, or βῆμα, ſeparated from the reſt of the church by neat rails called cancelli. Into this part none were allowed to come, but thoſe in holy orders, the emperors excepted, who came up to the table to make their offerings, and then went back again. Within this diviſion was the communion-table, or altar.

As to the ornaments of the antient churches, they were either εκτυπώματα, ſymbolical memorials or hieroglyphical repreſentations of the kindneſs which they had received, in imitation of the votive tablets of the gentiles; or they conſiſted of portions of ſcripture, written upon the walls. A very conſiderable ornament was beautifying the roofs with gilding and moſaic work. Sometimes they decked their churches with flowers and branches; but as to pictures, the uſe of them was not allowed for the firſt 300 years, being firſt introduced by Paulinus, biſhop of Nola, about the latter end of the fourth century.

CHURCH, with regard to architecture is defined by Daviler a large oblong edifice in form of a ſhip, with nave, choir, iſles, chapel, belfry, *&c.* See each of theſe under its proper head.

Simple CHURCH, that which has only a nave and choir.

CHURCH *with iſles*, that which has a row of porticos in form of vaulted galleries, with chapels in its circumference.

CHURCH *in a greek croſs*, that where the length of the traverſe part is equal to the length of the nave, ſo called becauſe moſt of the greek churches are built in this form.

CHURCH *in a latin croſs*, that where the nave is longer than the croſs part, as in moſt of the gothic churches.

CHURCH *in rotundo*, that whoſe plan is a perfect circle, in imitation of the pantheon at Rome.

CHURCH-GOVERNMENT, DISCIPLINE, *&c.* See the articles ECCLESIASTICAL, DISCIPLINE, *&c.*

CHURCH-REEVES, the ſame with church-wardens.

CHURCH-SCOT, ſignified cuſtomary oblations paid to a pariſh prieſt, from which the religious ſometimes purchaſed an exemption.

By the latin writers it was called *primitiæ ſeminum*, on account it was firſt a quantity of corn paid to the prieſt on St. Martin's day, as the firſt fruits of harveſt.

CHURCH STRETTON, a market-town of Shropſhire, about twelve miles ſouth of Shrewſbury; weſt longitude 2° 50′, north latitude 52° 35′.

CHURCH-THANE, the ſame with altar-thane. See the article ALTAR-THANE.

CHURCH-WARDENS, formerly called church-reeves, are officers choſen yearly, in Eaſter week, by the miniſter and pariſhioners of every pariſh, to look after the church, church-yard, church revenues, &c. alſo to obſerve the behaviour of the pariſhioners, in relation to ſuch miſdemeanors as appertain to the cenſure or juriſdiction of the eccleſiaſtical court.

They are to be choſen by the joint conſent of the miniſter and his pariſhioners, and, by cuſtom, the miniſter may chuſe one, and the pariſhioners another; or, if there be a cuſtom for it, the pariſhioners may elect both, though it is againſt the canon. They are ſworn into their office by the archdeacon; and if he refuſes to ſwear a church-warden, a mandamus may iſſue out to compel him: for as the church-wardens have a truſt repoſed in them by the pariſh, as temporal officers, the pariſhioners are the proper judges of their abilities to ſerve, and not the archdeacon who ſwears them.

The church-wardens are a corporation to ſue, and be ſued, for the goods of the church: they are to take care of the repairs of the church; and if they erect or add any thing new to the ſame, they muſt have the conſent of the pariſhioners, or veſtry; and if in the church, the licenſe of the ordinary: they have, with the conſent of the miniſter, the placing of the pariſhioners in the ſeats of the body of the church, appointing gallery-keepers, &c. reſerving to the ordinary a power to correct the ſame. In London, the church-wardens have this authority in themſelves: there alſo they are bound to fix fire-cocks, keep engines, &c. in their pariſhes, under the penalty of 10 l.

Beſides their ordinary power, the church-wardens have the care of the benefice during its vacancy: they are to join with the overſeers of the poor in making rates for their relief, ſetting up trades for employing them, placing out poor apprentices, ſettling poor perſons, &c. It is their duty to collect the charity-money upon briefs read in churches; they are to ſign the certificates of thoſe perſons who receive the ſacrament, to qualify them to bear offices, &c.

CHURCH-YARD, the ſame with coemetery. See the article COEMETERY.

CHURCHING *of women after child-birth*, an office in the liturgy, containing a thankſgiving to be uſed by women after being delivered from the great pain and peril of child-birth.

This practice, like many other chriſtian uſages, undoubtedly took its riſe from the jewiſh rite of purification enjoined by the law of Moſes.

In the greek church, the time of performing this office is limited to the fortieth day after delivery; but in the weſtern parts of Europe, no certain time is obſerved: the uſual time with us is a month after delivery, provided the woman be ſufficiently recovered. See the article CHRYSOM.

CHURLE, CEORLE, or CARL, in the time of the Saxons, ſignified a tenant at will, who held land of the thanes on condition of rent and ſervice. They were of two ſorts, one like our farmers that rented the out-land eſtates, the other which tilled and manured the demeſnes, and therefore called ploughmen.

CHURN-OWL, in ornithology, a name given to a ſpecies of ſwallow, otherwiſe called *caprimulgus*, or the goat-ſucker. See the article CAPRIMULGUS.

CHUSAN, or CHEUXAN, an iſland on the eaſtern coaſt of China, near the province of Chekiam; eaſt long. 124°, north lat. 30° 40′.

CHUSISTAN, a province in the ſouth-weſt part of Perſia, bounded by the gulph of Perſia on the ſouth, and by the province of Eyraca-Agem on the north.

CHUTON, or CHUTTON, a market-town of Somerſetſhire, about ſeven miles north-eaſt of Wells; weſt long. 2° 36′, north lat. 51° 25′.

CHYLE, in the animal œconomy, a milky fluid, ſecreted from the aliments by means of digeſtion.

The principles of the chyle ſeem to be ſulphureous, mucilaginous, ſaline, and aqueous. It is a kind of natural emulſion, both with regard to the colour, the ingredients, and the manner of preparation. There is this difference between the artificial and natural emulſion, that the latter is far more pure, and is prepared with much greater apparatus, not by the ſudden expreſſion of part of the liquid, but by a gentle and ſucceſſive percolation.

The chyle is made ſooner or later, according to the difference of the temperaments, ſtrength, aliments and cuſtoms: therefore how many hours chylification requires, cannot be certainly determined.

When the chyle enters the villous oscula of the lacteals, it is not a fluid extracted merely from the aliment and drink, but a mixture of several fluids; that is, the saliva and thinner mucus of the mouth, and the two fluids of the œsophagus, one proceeding from the villous membrane of the tube itself, the other from its glands. To these may be added the glutinous fluid of the stomach, the pancreatic juice, the fluid of peyer's glands, which are very numerous in the small intestines. Hence the reason appears, why men may live upon bread and water, why the oriental nations use rice in the room of all kinds of pulse; and why acids, spirituous liquors, saline things, and many vegetable juices, herbs, roots, acrid and aromatic substances, are the least fit to generate chyle.

Some of the antients supposed the chyle was changed into blood in the liver; others of them in the heart: but the moderns, with more reason, take the change to be effected by the blood itself, in all the parts of the body. See the article BLOOD.

CHYLIFICATION, the formation of the chyle, or the act whereby the food is changed into chyle. See the articles FOOD and CHYLE.

Chylification commences by comminuting the aliment in the mouth, mixing it with saliva, and chewing it with the teeth; by these means the food is reduced into a kind of pulp, which, being received into the stomach, mixes with the juices thereof; and thus diluted, begins to ferment and putrify, and assuming a very different form from what it had before, grows either acid or rancid. Here it meets with a juice separated from the blood by the glands of that part, whose excretory ducts open into the cavity of the stomach: by the commixture of these liquors, whether of saliva or the juice of the stomach, a proper menstruum is composed, by which the parts of the aliment are still more and more divided by its insinuating into their pores, acquire still a greater likeness to the animal fluids, and form what is called chyme. The stomach, by means of its muscular fibres, contracting itself, does gradually discharge its contents by the pylorus into the duodenum; in which gut, after a small semicircular descent, it meets with the pancreatic juice and bile; both which joining with it, renders some part of the aliment more fluid, by still disuniting the grosser parts from the more pure, and here the chylifaction is made perfect. The bile which abounds with lixivial salts, and is apt to entangle with the grosser parts of the concocted aliment, stimulates the guts, and cleanses their cavities of the mucous matter separated from the blood by the glands of the guts, and lodged in their cavities; which not only moistens the inside of the guts, but defends the mouth of the lacteal vessels from being injured by alien bodies, which often pass that way.

The contents of the intestines move still on, by means of the peristaltic motion of the guts; whilst those thinner parts, fitted to the pores of the lacteal vessels, are absorbed by them: the thicker move still more slowly on, and by the many stops they continually meet with by the connivent valves, all the chyle or thin parts are at length entirely absorbed; the remains being merely excrementitious, are only fit to be protruded by stool.

In the passage thro' the small intestines, the finer part of the mass, which we call the chyle (as has been already observed) enters the orifices of the lacteal vessels of the first kind, wherewith the whole mesentery is intermixed, which either alone, or together with the meseraic veins, discharge themselves into the glands, at the basis of the mesentery.

Then the chyle is taken up by the lacteals of the second kind, and is conveyed into glands between the two tendons of the diaphragm, called Pecquet's reservatory; whence it is carried to the heart by the thoracic duct, and the subclavian vein: and here it first mixes with the blood, and in time becomes assimilated thereto.

CHYLOSIS, among physicians, the act of reducing the aliment in the stomach to chyle, being the same with chylification. See the article CHYLIFICATION.

It is frequently also called *concoctio prima*, or the first concoction.

CHYME, or CHYMUS, χυμος, in the common signification of the word, denotes every kind of humour which is incrassated by concoction, under which notion it comprehends all the humours fit or unfit for preserving and nourishing the body, whether good or bad. It frequently imports the finest part of the chyle, when separated from the fæces, and contained in the lacteal and thoracic duct.

See

See the article CHYLIFICATION.

In Galen, it fignifies the guftatory faculty in animals.

CHYMISTRY, or CHEMISTRY. See the article CHEMISTRY.

CHYMOLOGI, an appellation given to fuch naturalifts as have employed their time in inveftigating the properties of plants from their tafte and fmell.

CHYMOSIS, in medicine, the art of making or preparing chyme. See the article CHYME.

According to fome, chymofis is the fecond concoction made in the body, being a repeated preparation of the moft impure and grofs part of the chyle, which being rejected by the lacteals, is imbibed by the meferaics, and carried to the liver, to be there purified and fubtilized afrefh.

CHYMOSIS is alfo a diftortion of the eye-lids, arifing from an inflammation; alfo an inflammation of the cornea tunica in the eye.

CIBDELOPLACIA, in natural hiftory, a genus of fpars debafed by a very large admixture of earth: they are opake, formed of thin crufts, covering vegetables and other bodies, by way of incruftations.

Of this genus we have the following fpecies: 1. A greyifh-white one, with a rough furface. 2. A whitifh-brown one: both thefe are friable. 3. A hard, pale-brown kind, which is the oftecolla of the fhops. 4. The whitifh-grey kind, with a fmooth furface: this is the unicornu foffile and ceratites of authors. 5. The whitifh-brown, coralloide kind.

CIBDELOSTRACIA, in natural hiftory, terrene fpars, deftitute of all brightnefs or tranfparence, formed into thin plates, and ufually found coating over the fides of fiffures, and other cavities of ftone, with congeries of them of great extent, and of plain or botryoide furfaces.

Of thefe there are ufually reckoned feven kinds: the firft is the hard, brownifh-white cibdeloftracium, found in Germany: the fecond is the hard, whitifh cibdeloftracium, with thin crufts, and a fmoother furface, found alfo in the Harts-foreft in Germany: the third is the hard, pale-brown cibdeloftracium, with numerous very thin crufts, found in fubterranean caverns in many parts of England, as well as Germany: the fourth is the white, light and friable cibdeloftracium, found alfo in Germany, but very rarely in any part of England: the fifth is the light, hard, pale-brown cibdeloftracium, with a fmooth furface, found in almoft all parts of the world: the fixth is the whitifh, friable, cruftaceous cibdeloftracium, with a rougher furface, frequent in Germany and England; and the feventh is the brownifh-white, friable cibdeloftracium, with a dufty furface, found in feveral parts of Ireland, as well as Germany.

CIBOULS, in botany, the name of a fpecies of onion. See ONION.

CICADA, the BAUM-CRICKET, in zoology, a genus of four-winged infects, of the order of the hemiptera, the characters of which are thefe: the antennæ are very fhort; the fnout bent downwards; the wings are cruciated, or difpofed in the form of a crofs; the back is convex, and the thorax fomewhat rounded. Of this genus there are a great many fpecies, as the laternaria, ranatra, locuftapulex, *&c.*

CICATRICULA, among natural hiftorians, denotes a fmall whitifh fpeck in the yolk of an egg, fuppofed to be the firft rudiments of the future chick. See the article EGG.

CICATRISIVE, or CICATRIZANT MEDICINES. See the article CICATRIZANTS.

CICATRIX, in furgery, a little feam or elevation of callous flefh rifing on the fkin, and remaining there after the healing of a wound or ulcer. It is commonly called a fcar.

In young infants thefe fcars diminifh much, and fometimes vanifh quite when they come to age, as may be feen in the pits of the fmall-pox; and in growing, they are fometimes obferved to change their fituation.

A furgeon in curing a wound, ought to be very induftrious to procure an even cicatrix; for which purpofe it will be proper to dry by degrees, and to harden the furface of the new flefh, by the application of dry lint covered with a light bandage: but when this is not fufficient, it may be proper to ufe fome of the drying effences or native balfams, or drying powders; fuch as tutia, lapis calaminaris, mafticbes or colophonium. Rectified fpirits of wine, which is of an aftringent drying virtue, is frequently ufed for this purpofe with great advantage. See the article WOUND.

CICATRIZANTS, in pharmacy, medicines which affift nature to form a cicatrix. Such are arminian bole, powder

of tutty, dificcativum rubrum, &c.

Cicatrizants are otherwiſe called eſcharotics, epulotics, incarnatives, agglutinants, &c.

CICER, the CHICH-PEA, in botany, a genus of the diadelphia-decandria claſs of plants, the flower of which is papilionaceous; the fruit is a turgid pod, of a rhomboid ſhape, containing two roundiſh ſeeds.

The ſeeds of this plant are accounted in ſome meaſure abſterſive, and for that reaſon are met with in diuretic compoſitions in the officinal medicines: but they are very ſeldom found in other preſcriptions. Chich-peaſe were the proviſion of the antient Hebrews when they took the field. They parched them, and ſo eat them; and at this day, in Egypt, it is uſual for thoſe who undertake a long journey, to lay in a good ſtock of chich-peaſe, parched in a frying-pan.

CICERONIANS, CICERONIANI, or CICERONIASTRI, epithets given by Muretus, Eraſmus, Nicholaus, Suſius, &c. to thoſe moderns who were ſo ridiculouſly fond of Cicero, as to reject every latin word as obſolete or impure, that could not be found in ſome one or other of his works.

CICHORIUM, SUCCORY, in botany, a genus of the ſyngeneſia-polygamia-æqualis claſs of plants, the compound flower of which is plain and uniform: the proper one, monopetalous, ligulated, truncated, and deeply quinquidentated; there is no pericarpium, but the cylindrical cup, connivent at the top, contains ſolitary compreſſed ſeeds with acute angles. See plate XLI. fig. 9.

This plant is regarded in all the ſhop-compoſitions, where it is concerned, as an hepatic. We ſeldom meet with it in extemporaneous preſcriptions, unleſs in a few medicated ales.

CICINDELA, in zoology, the ſame with the pyrolampis, or glow-worm, a genus of inſects, the antennæ of which are ſetaceous, and ſlender as a thread; the jaws are prominent and dentated; and the thorax is of a roundiſh but ſomewhat angulated figure. See plate XLI. fig. 10.

Of this genus authors enumerate the following ſpecies. 1. The field or green glow-worm, with ten white ſpots on the exterior wings. 2. The black glow-worm, with ſix white ſpots on the exterior wings, common in woody places. 3. The braſſy glow-worm, with broad excavated ſpots on the wings, common about the banks of rivers. 4. The black glow-worm, with a reddiſh thorax; and ſeveral other ſpecies, diſtinguiſhed by the like peculiarities.

CICLA, in ichthyology, a ſmall fiſh with a yellow or gold-coloured iris, and a broad tail, not forked.

It is made a diſtinct genus, whereof there are two ſpecies. 1. The larger cicla, called turdus major, about a ſpan in length. 2. The leſſer cicla, or turdus minor, ſeldom exceeding a hand's breadth in length.

CICUTA, WATER-HEMLOCK, in botany, a genus of the pentandria-digynia claſs of plants, the univerſal flower of which is uniform; the proper one conſiſts of five oval, cordated, inflected, and almoſt equal petals, diſpoſed in the manner of a roſe; there is no pericarpium; the fruit is roundiſh, ſtriated, and diviſible into two parts; the ſeeds are two, ſubovated, convex and ſtriated on one ſide, and plain on the other. See plate XLI. fig. 11.

CICUTA is alſo Tournefort's name for the common hemlock or conium of Linnæus. See the article CONIUM.

CIDARIS, in antiquity, the mitre uſed by the jewiſh high prieſts. The Rabbins ſay, that the bonnet uſed by prieſts in general, was made of a piece of linen-cloth ſixteen yards long, which covered their heads like a helmet or a turbant; and they allow no other difference between the high prieſt's bonnet, and that of other prieſts, than this, that one is flatter and more in the form of a turbant; whereas that worn by ordinary prieſts, roſe ſomething more in a point. A plate of gold was an ornament peculiar to the high prieſt's mitre.

CIDARIS, in conchyliology, the name by which authors call the turban-ſhell, or centronia, of a roundiſh figure. See the article CENTRONIA.

CIDER, or CYDER. See the article CYDER.

CIFALU, or CEFALEDI, a port-town of Sicily, thirty-ſix miles eaſt of Palermo; eaſt longitude 13° 32′, north latitude 38° 30′.

CILIA, the EYE-LASHES, in anatomy, are certain rigid hairs ſituated on the arch or tarſus of the eye-lids, and bent in a very ſingular manner.

They are deſtined for keeping external bodies out of the eye, and for moderating the influx of light.

CILIARE, or LIGAMENTUM CILIARE, or

or CILIARIS PROCESSUS, in anatomy, a range of black fibres difpofed circularly, having their rife in the inner part of the uvea, terminating in the prominent part of the chryftalline humour of the eye, which they furround.

Mr. Mariotte denies the ligamentum ciliare to have any connection with the chryftalline, or to ferve for any purpofes thereof; but Dr. Porterfield, in the medical effays of Edinburgh, thinks that it accommodates the chryftalline to the diftances of objects; from whence he accounts for the phænomena of vifion, as alfo of difeafes; as, 1. When the ciliare ligamentum becomes paralytic, no near object will appear diftinct. 2. If this ligament fhould be convulfed, no diftant object will appear diftinct. 3. If it fhould be paralytic on one fide, and found on the other, the chryftalline muft get an oblique fituation, when we look at near objects; whence they will not appear diftinct, unlefs the eye be turned afide from the object. 4. When this ligament has become rigid and ftiff, the chryftalline will have but very little motion, when the limits of diftinct vifion will be very narrow.

CILIARIS, in anatomy, the fame with the orbicular mufcle of the eye. See the article ORBICULARIS.

CILIATED LEAF, among botanical writers, one furrounded all the way with parallel filaments, fomewhat like the hairs of the eye-lids; whence its name.

CILICIUM, in hebrew antiquity, a fort of habit made of coarfe ftuff, formerly in ufe among the Jews in times of mourning and diftrefs. It is the fame with what the feptuagint and hebrew verfions call fack-cloth. St. John, in the Revelations, plainly fhews that thefe fack-cloths, or, as they are otherwife called, hair-cloths, were of a black colour.

CILLEY, the capital of a territory of the fame name in Stiria, and the circle of Auftria, in Germany; eaft longitude 15° 35′, north latitude 46° 35′.

CIMA, or SIMA, in architecture, the fame with cymatium or ogee. See the article OGEE.

CIMELIANTHUS, in natural hiftory, the name of a fpecies of oculus beli, with a yellow pupil in the middle. See the article OCULUS BELI.

CIMEX, BUG, in zoology, a genus of four-winged flies, of the order of the hemiptera, the characters of which are thefe; the roftrum or fnout is inflected, or bent towards the breaft; the wings are cruciated; the legs are formed for running; the back is plain, and the thorax marginated. See plate XLI. fig. 12.

Of this genus there are a great many fpecies, fome of which are roundifh, and others of an oblong body. 1. The green and yellow bug. 2. The common houfe bug. 3. The blackifh bug. 4. The grey bug. 5. The reddifh bug. 6. The black bug, with white wings. 7. The oblong, reddifh-brown bug. 8. The oblong, green bug. 9. The oblong bug, variegated with red and black. 10. The oblong, grey bug. 11. The oblong, black bug. 12. The oblong, greenifh white bug; and a great many other fpecies, diftinguifhed by the like peculiarities.

For a method of deftroying the houfe-bug, fee the article BUG.

CIMOLIA TERRA, in natural hiftory, a fpecies of white marle, which is ponderous and friable, and makes a confiderable effervefcence with aqua-fortis.

The antients prefcribed this earth with fuccefs, it is faid, in St. Anthony's fire, inflammations, and the like external ailments, to be applied by way of a cataplafm; and made the fame ufe of it for cleaning cloaths, as we now do of fuller's-earth. See the article FULLER's-EARTH.

CIMOLIA ALBA, a name given to the hard, heavy, white clay, whereof tobacco-pipes are made.

Its diftinguifhing characters are, that it is a denfe, compact, heavy earth, of a dull white colour, and very clofe texture; it will not eafily break between the fingers, and flightly ftains the fkin in handling. It adheres firmly to the tongue; melts very flowly in the mouth, and is not readily diffufible in water. It is found in many places. That of the ifle of Wight is much efteemed for its colour. We have vaft plenty of it alfo near Pole in Dorfetfhire, and near Weddenfbury in Staffordfhire.

CINALOA, a province of Mexico, in North America, lying on the Pacific ocean, oppofite to the fouth end of California.

CINCA, a river of Spain, which, arifing in the Pyrenean mountains, and running fouth-eaft through Arragon, falls into the river Ebro.

CINCHONA, in botany, a genus of the pentandria-

pentandria-monogynia clafs of plants, the flower of which is monopetalous and infundibuliform: the fruit is a roundifh bilocular capfule, crowned with a cup, and opening into two parts from the bafe to the apex, containing feveral oblong, compreffed, marginated feeds.

This is the tree which produces the quinquina, or peruvian bark. See the article QUINQUINA.

CINCLUS, in ornithology, a fpecies of tringa, with the tip of the beak punctated, and the back greenifh. See the article TRINGA.

CINCTURE, or CEINTURE, in architecture, a ring, lift, or orlo at the top and bottom of the fhaft of a column, feparating the fhaft at one end from the bafe, and at the other from the capital. See the articles COLUMN and SHAFT.

That at bottom is particularly called apophyge, as if the pillar took its rife from it; and that at top colarin, colar, or collier, and fometimes annulus. See the articles APOPHYGE and COLARIN.

The cincture is fuppofed to be in imitation of the girts or ferrils, which were ufed by the antients to ftrengthen and preferve the primitive wooden columns.

CINERARIA, in ornithology, the name by which Linnæus calls the grey motacilla. See the article MOTACILLA.

CINERES, ASHES, in natural hiftory, *&c.* See the article ASHES.

CINERES CLAVELLATI, among chemifts, the afhes of tartar, or lees of wine.

From the great quantity of fea-falt fo frequently found in cineres clavellati, Dr. Degner fufpects that the fea-falt is defignedly mixed with thefe afhes, becaufe it is cheaper.

CINERITIOUS, an appellation given to different fubftances, on account of their refembling afhes, either in colour or confiftence: hence it is, that the cortical part of the brain, has fometimes got this epithet. See the article BRAIN.

CINGULUM SAPIENTIÆ, a name given by the inventor Rulandus to a quick-filver girdle. See GIRDLE.

CINNA, in botany, a genus of the monandria digynia clafs of plants; the corolla confifts of a bivalve compreffed linear glume, there is no pericarpium; the feed, which is fingle and cylindric, is included in the cup, which is alfo a bivalve compreffed linear glume carinated, acuminated, and containing one only flower.

CINNABAR, in natural hiftory, is either native or factitious. The native cinnabar is an ore of quick-filver, moderately compact, very heavy, and of an elegant, ftriated red colour. In this ore the quick-filver is blended in different proportions with fulphur. It is fo rich an ore, as to be no other than mercury impregnated with a fmall quantity of fulphur, juft enough to reduce it to that ftate, being commonly more than fix parts of mercury to one of fulphur; and even the pooreft cinnabar yields one half mercury: it is of a very bright, glittering appearance, when frefh broken; and is ufually found lodged in a bluifh, indurated clay, though fometimes in a greenifh talcy ftone.

For the method of feparating mercury from cinnabar, fee the article MERCURY.

Factitious CINNABAR, a mixture of mercury and fulphur fublimed, and thus reduced into a fine red glebe. The beft is of a high colour, and full of fibres, like needles.

The receipt for making it, according to the late college difpenfatory, is as follows. Take of purified quick-filver, twenty-five ounces; of fulphur, feven ounces; melt the fulphur, and ftir the quick-filver into it while fluid; if it take fire, let it be immediately extinguifhed, by covering it with another veffel. When cold, let it be rubbed into a fine powder. Let this powder be put into a fubliming veffel, and fetting it over a gentle fire, raife it by degrees till the whole is fublimed into a red, ftriated, heavy mafs, which perfectly refembles native cinnabar. This, as well as the native cinnabar, is excellent in epilepfies, and in all complaints of the head and nerves. But the factitious is rather to be preferred, as it doth not excite naufeas, vomitings, and other diforders which arife from vitriolic and perhaps arfenical particles blended by nature among fome of the maffes of the native mineral.

Cinnabar is likewife ufed by painters as a colour, and is rendered more beautiful, by grinding it with gum-water and a little faffron.

There is likewife a blue cinnabar, made by mixing two parts of fulphur with three of quick-filver and one of fal armoniac.

CINNABAR *of antimony*, a preparation of mercury, fulphur, and antimony, made by fublimation, faid to be a good diaphoretic and alterative. See the article ANTIMONY.

CINNAMON-TREE, *cinnamomum*, in botany, is only a fpecies of the laurus, according to Linnæus, diftinguifhed by

its oblong, ovated, trinervous, and plain leaves. See the article LAURUS.

The bark of this tree is the cinnamon of the shops, which to be good, ought to be of a reddish colour, not simply brown, and above all things, of an acrid and agreeable taste. The greatest deceits that are practised in the sale of cinnamon, are the selling such as has already had its essential oil distilled from it, and been dried again, and the imposing the *cassia lignea* in its place. The first of these cheats is discovered by the want of pungency in the cinnamon; the second, by this, that the cassia, when held a little time in the mouth, becomes mucilaginous, which is not the case with the true cinnamon.

No cinnamon can be imported into Britain, except from the East-Indies. That which comes from thence pays a duty of 3 s. $4\frac{86}{100}$d. a pound, and draws back on exportation, 3 s. $0\frac{29\frac{1}{2}}{100}$d. at the rate of 6 s. 8 d.

Cinnamon is an astringent in the *primæ viæ*, but in the more remote seats of action, it operates as an aperient and alexipharmic. It stops diarrhœas, promotes the menses, and hastens delivery: it strengthens the viscera, assists concoction, dispels flatulencies, and is a very present cardiac. It affords an oil which will sink in water, and is of great esteem and much prescribed in extemporaneous practice. As it is much adulterated on account of its dearness, the best way to know it is by dropping it upon sugar, and then dissolving it in small spirit. This oil has been made genuine in England from the common cinnamon of the shops, so as to exceed that brought from Holland.

CINNAMON-WATER is made by distilling the bark first infused in spirit of wine, brandy, or white-wine.

Clove-CINNAMON is the bark of a tree growing in Brazil, which is often substituted for real cloves.

White CINNAMON, called also winter's bark, is the bark of a tree frequent in the islands of St. Domingo, Guadaloupe, *&c.* of a sharp biting taste like pepper. Some use it instead of nutmeg; and in medicine it is esteemed a stomachic and antiscorbutic. See the article WINTER'S BARK.

CINOLOA, or CINALOA, the capital of the province of Cinaloa, in North America, about thirty miles east of the bay of California; west long. 113°, north lat. 25°. See the article CINALOA.

CINQUEFOIL, *quinquefolium*, in botany, the same with the potentilla of Linnæus. See the article POTENTILLA.

Cinquefoil-roots are esteemed drying, astringent, and antifebrific: and accordingly have been prescribed with success in agues, and fluxes of all kinds.

CINQUE-PORTS, *quinque portus*, five havens that lie on the east part of England towards France, so called, by way of eminence, on account of their superior importance; having been thought by our kings to merit a particular regard for their preservation against invasion. Hence they have a particular policy, and are governed by a keeper, with the title of lord-warden of the Cinque-ports.

They have various privileges granted them, as a peculiar jurisdiction; their warden having not only the authority of an admiral among them, but sending out writs in his own name. Their members of parliament are called barons of the Cinque-ports. Camden says, that William the Conqueror first appointed a warden of the Cinque-ports; but king John first granted them their privileges, and that upon condition they should provide a certain number of ships at their own charge for forty days, as often as he had occasion for them in the wars, he being then under a necessity of having a navy to recover Normandy; which service the barons of the Cinque-ports performed. The five ports are Hastings, Romney, Hythe, Dover, and Sandwich; to which we may add Winchelsea, Rye, and Seaford. There are also several other towns adjoining, which have the privileges of the ports. These Cinque-ports have certain franchises, and the king's writs do not run there. The constable of Dover-castle is lord-warden of the Cinque-ports; and there are several courts within the Cinque-ports; one before the lord-warden, others within the ports themselves, before the mayor and jurats, and another, called Curia quinque portuum apud Shepway. There is likewise a court of Chancery in the Cinque-ports, to decide matters of equity, but no original writs issue thence.

CINQUE-PORT is also a particular kind of fishing-net much used in standing water, so called on account of the five entrances into it.

CINTRA, a cape and mountain of Portugal, in the province of Estremadura, usually called the rock of Lisbon, situated on the north side of the entrance of the river

river Tagus: west longitude 10° 15′, north latitude 39°.

CINYRA, or CINNOR, in jewish antiquity, generally translated cithara, lyra, &c. a musical instrument used before the flood, and invented by Jubah the son of Lamech. It was on the cinyra that David played before Saul; and this was the instrument, which the captive Levites hung upon the willows of Babylon. It was made of wood, and was played on in the temple of Jerusalem. Josephus says, that the cinyra of the temple had ten strings, and was touched with the bow. See the article CITHARA.

CION, or CYON, among gardeners, denotes a young sprig, or sprout of a tree.

CION, in anatomy, a name sometimes used for the uvula. See the article UVULA.

CIPHER, or CYPHER, one of the arabic characters, or figures, used in computation, formed thus 0.

A cypher of itself signifies nothing; but when placed after other characters, in whole numbers, it augments their value ten times; and when placed before other characters in decimal arithmetic, it lessens the value in each figure in the same proportion.

CIPHER is also a kind of enigmatic character, composed of several letters interwoven, which are generally the initial letters of the person's names for whom the ciphers are intended.

These are frequently used on seals, coaches, and other moveables. Merchants likewise, instead of arms, bear a cipher, or the initial letters of their names interwoven about a cross, of which we have many instances on old tombs.

CIPHER denotes likewise certain secret characters disguised and varied, used in writing letters that contain some secret, not to be understood but by those between whom the cipher is agreed on.

De la Guilletiere, in a book intitled *Antient and modern Lacedæmon*, pretends that the antient Spartans were the inventors of the art of writing in cipher, making their scytala the first sketch of that mysterious art. See SCYTALA LACONICA.

Polybius relates, that Æneas Tacticus, two thousand years ago, collected together twenty different manners of writing so as not to be understood by any but those in the secret; part of which were invented by himself, and part used before his time.

There are several kinds of ciphers, according to lord Bacon; as the simple, those mixed with non-significants, those consisting of two kinds of characters, wheel-ciphers, key-ciphers, word-ciphers, &c. They ought all to have these three properties, 1. They should be easy to write and read. 2. They should be trusty and undecipherable. And, 3. Clear of suspicion.

There is a new way of eluding the examination of a cipher, *viz.* to have two alphabets, the one of significant, and the other of non-significant letters; and folding up two writings together, the one containing the secret, while the other is such as the writer might probably send without danger: in case of a strict examination, the bearer is to produce the non-significant alphabet for the true, and the true for the non-significant; by which means the examiner would fall upon the outward writing, and, finding it probable, suspect nothing of the inner.

No doubt the art of ciphering is capable of great improvement. It is said that king Charles I. had a cipher consisting only of a straight line differently inclined: and there are ways of ciphering by the mere punctuation of a letter, whilst the words of a letter shall be non-significants, or sense that leaves no room for suspicion.

Those who desire a fuller explanation of ciphering, may consult Bacon, where they will find a cipher of his invention; Bishop Wilkin's Secret and swift Messenger; and Mr. Falconer's Cryptomenysis patefacta.

CIPHER *with a single key*, that in which the same character is constantly used to express the same word or letter.

CIPHER *with a double key*, that in which the alphabet or key is changed in each line, or in each word; and wherein are inserted many characters of no significancy, to perplex the meaning.

CIPHERING, or CYPHERING, a term sometimes used for the practical part of arithmetic. See ARITHMETIC.

CIPPUS, in antiquity, a low column, with an inscription, erected on the high roads, or other places, to shew the way to travellers, to serve as a boundary, to mark the grave of a deceased person, &c.

Those erected in the high-ways to mark the miles, were called milliary columns.

CIPPUS is also the name of a wooden instrument with which criminals and slaves were punished, being a clog or stocks for the feet.

CIRCÆA, ENCHANTERS NIGHTSHADE, in botany, a genus of the diandria-monogynia

nogynia clafs of plants, the flower of which confifts of cordated petals, equal in height, and fpread open ; the fruit is an oval or pear-like bilocular capfule, containing fingle oblong feeds.

CIRCASSIA, a country fituated between 40° and 50° eaft longitude, and between 45° and 50° north latitude.

It is bounded by Ruffia on the north, by Aftracan and the Cafpian fea on the eaft, by Georgia and Dagiftan on the fouth, and by the river Don and the Palus Meotis on the weft.

The circaffian Tartars form a kind of republic, but fometimes put themfelves under the protection of Perfia, and fometimes of Ruffia, or the Turks. They live moftly in tents, removing from place to place for the benefit of pafturage ; and are chiefly remarkable for the beauty of their children, the feraglios of Turky and Perfia being ufually fupplied with boys and young virgins from this and the neighbouring country of Georgia.

CIRCENSIAN GAMES, *circenfes ludi*, a general term, under which was comprehended all combats exhibited in the roman circus, in imitation of the olympic games in Greece. Moft of the feafts of the Romans were accompanied with circenfian games ; and the magiftrates, and other officers of the republic, frequently prefented the people with them, in order to procure their favour. The grand games were held for five days, commencing on the fifteenth of September. There were fix kinds of games exhibited ; the firft was wreftling, and fighting with fwords, with ftaves, and with pikes ; the fecond was racing ; the third, *faltatio*, leaping ; and fourth, *difci*, quoits, arrows, and ceftus ; all which were on foot ; the fifth was horfe-courfing : the fixth, courfes of chariots, whether with two horfes or with four.

CIRCLE, *circulus*, in geometry, a plane figure comprehended by a fingle curve line, called its circumference, to which right lines, or radii, drawn from a point in the middle, called the center, are equal to each other.

The area of a circle is found by multiplying the circumference by the fourth part of the diameter ; or half the circumference by half the diameter : for every circle may be conceived to be a polygon of an infinite number of fides, and the femidiameter muft be equal to the perpendicular of fuch a polygon, and the circumference of the circle equal to the periphery of the polygon : therefore half the circumference multiplied by half the diameter, gives the area of the circle.

Circles, and fimilar figures infcribed in them, are always as the fquares of the diameters ; fo that they are in a duplicate ratio of their diameters, and confequently of their radii.

A circle is equal to a triangle, the bafe of which is equal to the periphery, and its altitude to its radius : circles therefore are in a ratio compounded of the peripheries and the radii.

To find the proportion of the diameter of a CIRCLE *to its circumference.* Find, by continual bifection, the fides of the infcribed polygon, till you arrive at a fide fubtending any arch, howfoever fmall ; this found, find likewife the fide of a fimilar circumfcribed polygon ; multiply each by the number of the fides of the polygon, by which you will have the perimeter of each polygon. The ratio of the diameter to the periphery of the circle will be greater than that of the fame diameter to the perimeter of the circumfcribed polygon, but lefs than that of the infcribed polygon. The difference of the two being known, the ratio of the diameter to the periphery is eafily had in numbers very nearly, though not juftly true. Thus Archimedes fixed the proportion at 7 to 22.

Wolfius finds it as 100000000000000000 to 31415926535897932 ; and the learned Mr. Machin has carried it to one hundred places, as follows : if the diameter of a circle be 1, the circumference will be 3,14159, 26535, 89793, 23846, 26433, 83279, 50288, 41971, 69399, 37510, 58209, 74944, 59230, 78164, 05286, 20899, 86280, 34825, 34211, 70679 of the fame parts. But the ratios generally ufed in practice are that of Archimedes, and the following ; as 106 to 333, as 113 to 355, as 1702 to 5347, as 1815 to 5702, or as 1 to 3.14159.

To defcribe a CIRCLE *through three given points,* ABC (plate XLI. fig. 13. N°. 1.) *not in a right line.* Draw two right lines from A to B, and from B to C ; then divide thefe two right lines into two equal parts, by the perpendiculars GH and FE : the point of their interfection D will be the center of the circle required. Hence it follows, 1. That three points in the periphery or arch of any circle being given, the center may be found, and the arch perfected. 2. If three points of any periphery coincide with three points

points of another, the whole peripheries agree, and the circles are equal. 3. Every triangle may be inscribed in a circle.

The quadrature of the CIRCLE, or the manner of making a square, whose surface is perfectly and geometrically equal to that of a circle, is a problem that has employed the geometricians of all ages. See the article QUADRATURE.

Many maintain it to be impossible; Des Cartes, in particular, insists on it, that a right line and a circle being of different natures, there can be no strict proportion between them: and in effect we are at a loss for the just proportion betweeen the diameter and circumference of a circle.

Archimedes is the person who has come nearest the truth: all the rest have made paralogisms. Charles V. offered a reward of one hundred thousand crowns to the person who should solve this celebrated problem; and the states of Holland have proposed a reward for the same purpose.

CIRCLE *of the higher kind*, an expression used by Wolfius, and some others, to denote, for the most part, a curve expressed by the equation $y^m = ax^{m-1} - x^m$, which indeed will be an oval when m is an even number; but when m is an odd number, the curve will have two infinite legs, as suppose $m=3$, then the curve FAMG (plate XLI. fig. 13. n° 2.) expressed by the equation $y^3 = ax^2 - x^3$, where AP$=x$, PM$=y$, and AB$=a$ will be one of Sir Isaac Newton's defective hyperbolas, being, according to him, the thirty-seventh species, whose asymptote is the right line D E at half right angles with the abscis H I.

CIRCLES *of the sphere* are such as cut the mundane sphere, and have their periphery either on its moveable surface, or in another immoveable surface: the first revolve with its diurnal motion, as the meridians, &c. the latter do not revolve, as the equator, the ecliptic, &c.

If a sphere be cut in any manner, the plane of the section will be a circle, whose center is in some diameter of the sphere. Hence the diameter of a circle passing through the center, being equal to that of the circle which generated the sphere; and that of a circle which does not pass through the center, being only equal to some chord of the generating circle; the diameter being the greatest of all chords, there arises another division of the circles of a sphere, into great and less.

Great CIRCLE *of the sphere*, that which having its center in the center of the sphere, divides it into two equal hemispheres; such are the equator, ecliptic, horizon, the colures, and the azimuths, &c. See EQUATOR, ECLIPTIC, &c.

Lesser CIRCLE *of the sphere*, that which having its center in the axis of the sphere, divides it into two unequal parts: these are usually denominated from the great circles to which they are parallel, as parallels of the equator.

CIRCLES *of altitude*. See ALMUCANTARS.

Diurnal CIRCLES are immoveable circles, supposed to be described by the several stars and other points of the heavens, in their diurnal rotation round the earth; or rather, in the rotation of the earth round its axis.

CIRCLE *of curvature*, a circle, the curvature of which is equal to that of a certain curve at a given point.

CIRCLE *equant*, in the old astronomy, a circle described on the center of the equant, the principal use of which is to find the variation of the first inequality.

CIRCLES *of excursion* are parallel to the ecliptic, and usually fixed at ten degrees from it, that the excursions of the planets towards the poles of the ecliptic may be included within them.

All these circles of the sphere are conceived to fall perpendicularly on the surface of the globe, and so to trace out circles perfectly similar to them. Thus the terrestrial equator is a line precisely under the equinoctial in the heavens, and so of the rest.

CIRCLES *of latitude*, or *secondaries of the ecliptic*, are great circles perpendicular to the plane of the ecliptic, passing through the poles of it, and through every star and planet. They serve to measure the latitude of the stars, which is an arch of one of those circles intercepted between the star and the ecliptic.

CIRCLES *of longitude* are several lesser circles parallel to the ecliptic, still diminishing in proportion as they recede from it; on these the longitude of the stars is reckoned.

CIRCLES *of declination*, on the globe, are, with some writers, the meridians on which the declination or distance of any star from the equinoctial is measured.

Horary CIRCLES, in dialling, are the lines which shew the hours on dials, though these be not drawn circular, but nearly straight.

Horary CIRCLE, on the globe, a brazen circle fixed on every globe with an index, to

to ſhew how many hours, and conſequently how many degrees any place is eaſt or weſt of another.

CIRCLE *of perpetual apparition,* one of the leſſer circles, parallel to the equator, deſcribed by any point touching the northern point of the horizon, and carried about with the diurnal motion: all the ſtars included within this circle are always viſible above the horizon.

CIRCLE *of perpetual occultation,* another circle at a like diſtance from the equator, on the ſouth, containing all thoſe ſtars which never appear in our hemiſphere.

Polar CIRCLES are parallel to the equator, and at the ſame diſtance from the poles that the tropics are from the equator. See the articles ARCTIC and ANTARCTIC.

CIRCLES *of poſition* are circles paſſing thro' the common interſections of the horizon and meridian, and through any degree of the ecliptic, or the center of any ſtar, or other point in the heavens; and are uſed for finding out the ſituation or poſition of any ſtar. Theſe are called by aſtrologers, circles of the celeſtial houſes.

Arch of a CIRCLE,	See	ARCH.
Antarctic CIRCLE,		ANTARCTIC.
Arctic CIRCLE,		ARCTIC.
Axis of a CIRCLE,		AXIS.
Center of a CIRCLE,		CENTER.
Concentric CIRCLE,		CONCENTRIC.
Eccentric CIRCLE,		ECCENTRIC.
Fairy CIRCLE,		FAIRY.
Secondary CIRCLE,		SECONDARY.
Segment of a CIRCLE,		SEGMENT.

Vertical CIRCLES. See the articles VERTICAL and AZIMUTH.

CIRCLE, in logic, or *logiſtical* CIRCLE, is when the ſame terms are proved *in orbem* by the ſame terms; and the parts of the ſyllogiſm alternately by each other, both directly and indirectly. Thus the papiſts, who are famous at this falſe-way of arguing, prove the ſcripture to be the word of God, by the infallible teſtimony of their church; and when they are called upon to ſhew the authority of their church, they pretend to prove it by the ſcripture. There are two kinds of circles, the one material, the other formal: the formal is that in which two reciprocal ſyllogiſms beg the medium, which is the next cauſe of the greater extreme; if this is admitted, the ſame thing becomes both prior and poſterior, the cauſe and effect of itſelf, which is abſurd. The material circle, called alſo *regreſſus,* conſiſts of two ſyllogiſms, the former of which proves the cauſe by the effect, and the latter the effect by the cauſe.

CIRCLE, *circulus,* among ſchoolmen, is underſtood of viciſſitudes of generations ariſing one out of another: thus, vapours ariſe from moiſt grounds, rain is formed of vapours, and rain again moiſtens the ground. It is a celebrated dogma of the ſcotiſts, that there is no circle in cauſes of the ſame order or kind.

CIRCLES *of the empire,* ſuch provinces and principalities of the empire as have a right to be preſent at diets. Maximilian I. divided the empire into ſix, and ſome years afterwards into ten circles. This laſt diviſion was confirmed by Charles V. The circles, as they ſtand in the Imperial Matricula, are as follows, Auſtria, Burgundy, the Lower Rhine, Bavaria, Upper Saxony, Franconia, Swabia, Upper Rhine, Weſtphalia, and the Lower Saxony.

CIRCOLO MEZZO, in the italian muſic, denotes a diminution of four quavers or ſemiquavers, which repreſent a ſemicircle, proceeding by conjoint degrees.

CIRCUIT, or CIRCUITY, in law, ſignifies a longer courſe of proceedings than is needful to recover the thing ſued for; in caſe a perſon grants a rent-charge of 10 l. a-year out of his manor, and afterwards the grantee diſſeiſes the grantor, who thereupon brings an aſſiſe, and recovers the land, and 20 l. damages; which being paid, the grantee brings his action for 10 l. of the rent, due during the time of the diſſeiſin; this is termed circuity of action, becauſe as the grantor was to receive 20 l. damages, and pay 10 l. rent, he might only have received the 10 l. for the damages, and the grantee might have retained the other 10 l. for his rent, and by that means ſaved his action.

CIRCUIT alſo ſignifies the journey, or progreſs, which the judges take twice every year, through the ſeveral counties of England and Wales, to hold courts, and adminiſter juſtice, where reſource cannot be had to the king's courts at Weſtminſter; hence England is divided into ſix circuits, *viz.* The home circuit, Norfolk circuit, Midland circuit, Oxford circuit, Weſtern circuit, and Northern circuit.

In Wales there are but two circuits, North and South Wales; two judges are aſſigned by the king's commiſſion to every circuit.

In Scotland there are three circuits, *viz.* the

the Southern, Weftern, and Northern, which are likewife made twice every year, *viz.* in fpring and autumn.

CIRCULAR, in a general fenfe, any thing that is defcribed or moved in a round, as the circumference of a circle, or furface of a globe.

The circular form is of all others the beft difpofed for motion, and the moft capacious.

CIRCULAR LETTER, a letter directed to feveral perfons, who have the fame intereft in fome common affair.

CIRCULAR LINES, in mathematics, fuch ftraight lines as are divided from the divifions made in the arch of the limb, fuch as fines, tangents, fecants, chords, *&c.* See the articles SINE and TANGENT.

CIRCULAR NUMBERS, called alfo fpherical ones, according to fome, are fuch whofe powers terminate in the roots themfelves.

Thus, for inftance, 5 and 6, all whofe powers do end in 5 and 6, as the fquare of 5 is 25, the fquare of 6 is 36, *&c.*

CIRCULAR SAILING is the method of failing by the arch of a great circle. See the article SAILING.

CIRCULAR VELOCITY, in the new aftronomy, fignifies the velocity of any planet, or revolving body, which is meafured by the arch of a circle. See CIRCLE.

CIRCULATION, the act of moving round, or in a circle; thus we fay, the circulation of the blood, the circulation of the fap, of the fpirits, *&c.*

CIRCULATION *of the blood*, the natural motion of the blood in a living animal, whereby that fluid is alternately carried from the heart to all parts of the body by the arteries, and returned from the fame parts to the heart by the veins.

This motion is chiefly caufed by the dilatation and contraction of the heart, and is the principle on which life depends; for when it ceafes in any part, it dies; when it is diminifhed, the operations are weak; and when it ceafes totally, life is extinguifhed. See the articles BLOOD, HEART, ARTERY, and VEIN.

All the veins difcharge themfelves into the ventricles of the heart; from hence all the arteries arife; the blood expelled out of the right ventricle muft be carried, through the pulmonary artery, into the lungs; from which it muft be returned, by the pulmonary veins, to the left ventricle; from the left ventricle the blood, thus imported, is, by the conftriction of that part, again expelled into the aorta, and by it diftributed all over the reft of the body, and thence is returned again to the right ventricle by the cava, which completes the circulation.

This circulation becomes actually vifible, with the affiftance of a microfcope, efpecially in fifh, frogs, *&c.* wherein the inofculation, or union of the extremities of the arteries with thofe of the veins, together with the globules of the blood flowing from the one into the other, may be plainly feen, as reprefented in plate XLII. fig. 1.

The reafons evincing the circulation of the blood, are as follow:

1. All the blood of a living animal, upon wounding any of the larger arteries, is evacuated in a little time, and that with a confiderable force; whence it follows, that the blood has a paffage from every part of the animal body into every artery; and if the whole mafs of blood be found to move upon this occafion, it is evident it muft have moved before.

2. The great quantity of blood that is driven out of the heart into the arteries at every pulfe, makes a circulation neceffary; for though the antients, who knew not this circulation, imagined that only a drop or two was expelled at every fyftole, which they were neceffitated to fuppofe, to avoid the too great diftention that the arteries muft be liable to, from a more confiderable influx; yet it is certain, and even demonftrable, that an ounce, or more, muft be driven into them each time; and yet fome compute there are five or fix thoufand pulfations in an hour.

3. A third argument may be taken from the valves in the veins, which are fo formed, that blood may freely pafs through them, out of the leffer veins into the greater, and fo into the cava; but, on the contrary, not out of the greater into the lefs; yea, if one blow into the cava, through a pipe, there will no wind pafs into the fmaller veins; but, on the other hand, if you blow up the leffer veins, the wind will readily pafs to the larger, and fo to the cava.

4. Any of the arteries being tied up with a fillet, fwell, and beat between the bandage and the heart, but they grow flaccid between the bandage and the extremities of the body; then, if the artery be cut between the bandage and the heart, blood ftreams out even to death; but if it be cut between the bandage and the extre-

extremities of the body, the quantity of blood it yields is very ſmall.

5. Any of the larger veins being tied up with a fillet, as in the letting of blood in the arm or foot, then the vein below the ligature will preſently fill and grow tumid, but above it will preſently fall and diſappear: the reaſon of which muſt needs be, that the blood being driven along the arteries, towards the extreme parts, returns by the veins, and aſcends upwards, which coming to the ligature, and being ſtopt there, ſwells the vein below the ligature, and ſpurts out as ſoon as an orifice is made; but when the fillet is looſed again, the blood flows no longer out thereat, but holds on its wonted channel; and the vein and the orifice cloſe up again.

From the whole it is evident that all the arteries of the body are continually bringing the blood from the left part of the heart, through the trunks of the arteries, into the branches, and from thoſe to all parts of the body; and, on the contrary, that all the veins, except the porta, are perpetually bringing back the blood from the extreme parts into the ſmaller branches: from theſe it paſſes into the larger, at length into the trunks, and thence into the cava, and through the ſinus venoſus into the heart, where being arrived, its motion or circulation is continued as follows.

The auricles of the heart being large hollow muſcles, furniſhed with a double ſeries of ſtrong fibres, proceeding with a contrary direction to the oppoſite tendons, the one adhering to the right ventricle, the other to the ſinus venoſus; as alſo with innumerable veins and arteries; by the contractile force of theſe auricles, the blood will be vigorouſly expreſſed and driven into the right ventricle, which, upon this contraction, is rendered flaccid, empty, and diſpoſed to admit it.

Now, if the right ventricle, thus full of blood, by the contraction of its fibres, preſs the blood towards the aperture again, the venous blood at the ſame time pouring in, will drive it back again into the cavity, and mix it more intimately, till riſing up againſt the parietes, it raiſe the valvulæ tricuſpides, which are ſo connected to the fleſhy columns extended on the oppoſite ſide, as that, when laid quite down, they cannot cloſe the parietes of the right ventricle; theſe it thruſts towards the right auricle, till being there joined, they ſtop the paſſage very cloſely, and prevent any return.

By the ſame means, the ſame blood riſes into three ſemilunar valves, placed in the extremity of the other mouth, and lying open to the pulmonary artery; theſe it ſhuts cloſe againſt the ſides of the artery, and leaves a paſſage into the artery alone; the blood carried by this artery into the lungs, and diſtributed by its branches through the whole ſubſtance thereof, is firſt admitted into the extremities of the pulmonary vein, called arteria venoſa, whence paſſing into four large veſſels, which unite together, it is brought to the left ſinus venoſus, or trunk of the pulmonary vein, by the force of whoſe muſculous ſtructure, it is driven into the left ventricle, which, on this occaſion, is relaxed, and by that means prepared to receive it.

Hence, as before, it is driven into the left ventricle, which is relaxed by the ſame means; and by the valvulæ mitrales opening, admit it into the left ventricle, and hinder its flux into the pulmonary vein, from hence it is forced into the aorta, at whoſe orifice there are three ſemilunar valves, which alſo prevent a reflux by cloſing the ſame.

The motion of the blood in living animals is attended with the following phænomena: 1. Both the venous ſinuſes are filled, and grow turgid at the ſame time. 2. Both auricles grow flaccid at the ſame time, and both are filled at the ſame time with blood, impelled by the contractile force of its correſpondent muſcular venous ſinus. 3. Each ventricle contracts and empties itſelf of blood at the ſame time; and the two great arteries are filled and dilated at the ſame time. 4. As ſoon as the blood, by this contraction, is expelled, both ventricles being empty, the heart grows larger and broader. 5. Upon which the muſcular fibres of both venous ſinuſes contract, and expreſs the blood contained in them, into the ventricle of the heart. 6. In the mean time the venous ſinuſes are again filled, as before, and the auricles, &c. return into their former habitude. 7. This alteration continues till the animal begins to languiſh under the approach of death, at which time the auricles and venous ſinuſes make ſeveral palpitations, for one contraction of the ventricle.

In a fœtus, the apparatus for the circulation of the blood is ſomewhat different from

from that in adults, as above defcribed. The feptum, which feparates the two auricles of the heart, is pierced through with an aperture, called the foramen ovale, and the trunk of the pulmonary artery, a little after it has left the heart, fends out a tube into the defcending aorta, called the communicating canal. The fœtus being born, the foramen ovale clofes by degrees, and the canal of communication dries up, and becomes a fimple ligament. Dr. Nichols, lecturer of anatomy at Oxford, has, in his Compend. Anatom. contradicted the common received doctrine of the motion of the heart, and of the circulation of the blood, both in adults and fœtufes: he maintains, that the circulation of the blood depends on fix motions; 1. Of the right auricle. 2. Right ventricle. 3. Pulmonary artery. 4. Left auricle. 5. Left ventricle. And, 6. of the aorta. Of thefe, the firft, third, and fifth are fynchronous, or act at the fame time; as the fecond, fourth, and fixth likewife do; but the firft, third, and fifth are afynchronous, or act at a different time from what the fecond, fourth, and fixth do, and therefore

The 2 auricles The 2 ventricles The 2 arteries	are alternately	relaxed, & contracted.

Concerning the circulation of the blood in fœtufes, the doctor has the following propofitions.

1. The blood of the afcending cava is fitter for nutrition, mufcular motion, and the fubtile fecretions, than the blood that is carried to the heart by the defcending cava.

2. The afcending and defcending aorta are dilated and contracted at different times, or have afynchronous motions.

3. The blood of the afcending cava is pufhed to the heart at the time when the right auricle is contracted, and the left auricle is relaxed, and therefore it will not pafs into the right auricle, and from that into the left, but muft go immediately from the cava into the left auricle.

4. The blood which is fent from the left auricle into the left ventricle, confifting moftly of the blood of the afcending cava, in wholly diftributed into the heart and branches of the afcending aorta.

5. The blood which flows from the defcending cava into the heart, paffes partly through the lungs into the left auricle, to be mixed with the blood of the afcending cava; partly paffes into the defcending aorta, not to be mixed with the blood of the afcending artery, that the blood which is returned to the mother may be venous, weak, and poor *(effœtus.)*

6. The canalis arteriofus being fhut by refpiration, the defcending artery acquires a motion fynchronous to that of the afcending artery; and the blood of the afcending cava is fent to the heart at the time when the left auricle is contracted, and the right auricle is relaxed, and therefore is wholly poured into the right ventricle, along with the blood of the defcending cava.

7. The contents of the abdomen being preffed by refpiration, the umbilical arteries, umbilical veins, and the ductus venofus are fhut up.

8. The ufual crying of new born infants contributes much to the diftention of the lungs, and breaking down the particles of blood.

Dr. Whytt, in an enquiry into the caufes which promote the circulation of the fluids in the very fmall veffels of animals, appears to have fuccefsfully controverted the opinions of thofe who have held the force of the heart, the contraction of the arteries, gravity, and the attraction of the capillary tubes, as the caufes of fuch a circulation. He contends, that the principal caufe of promoting the circulation of the fluids, is the vibratory motion of the fmall veffels of animals, and that they are poffeffed of fuch a motion, he urges from the teftimony of many phyfiological writers, and from experiments and obfervations on the veffels of animals. The circulation, in imperfect animals which have no heart, nor any thing analogous to it, he obferves, muft be owing to the contractile power of the veffels, excited into action by the gentle ftimulus of the fluids. He endeavours to fhew an alternate contraction in the fmall veffels of animals, which is exerted, more or lefs, according to the degree of irritation affecting them: and concludes, that as the motion of the blood in the larger veffels, and even capillaries of the firft order, is owing to the alternate fyftole of the heart and arteries; fo, in the ferous lymphatic and ftill fmaller veffels, where this force reaches not at all, or is greatly diminifhed, the circulation feems to be carried on chiefly by the vibratory motion of the veffels themfelves; and the finer fluids being in this manner tranfmitted into the larger veins, the pulfation of neighbouring arteries, action of voluntary mufcles, and alternate compreffion made upon all the

the contents of the abdomen and thorax, by the motion of refpiration, will promote their return to the heart along with the red blood in the venæ cavæ.

As to the velocity of the circulating blood, and the time wherein the circulation is compleated, feveral computations have been made. By Dr. Keil's account, the blood is driven out of the heart into the aorta with a velocity which would carry it twenty-five feet in a minute: but this velocity is continually abated in the progrefs of the blood, in the numerous fections or branches of the arteries, fo that before it arrive at the extremities of the body, its motion is infinitely diminifhed. The fpace of time wherein the whole mafs of blood ordinarily circulates, is varioufly determined: fome ftate it thus, fuppofing the heart to make two thoufand pulfes in an hour, and that at every pulfe there is expelled an ounce of blood; as the whole mafs of blood is not ordinarily computed to exceed twenty-four pounds, it muft be circulated feven or eight times over in the fpace of an hour.

The circulation of the blood is generally faid to have been firft difcovered in England, in the year 1628, by Dr. Harvey, an ingenious and learned phyfician; tho' there are others who contend for the glory of this moft important difcovery: Leonicenus fays, that Fran. Paoli Sarpi, a Venetian, difcovered the circulation, but durft not publifh his difcovery for fear of the inquifition; that he therefore only communicated the fecret to Fab. ab Aquapendente, who, after his death, depofited the book he had compofed on it, in the library of St. Mark, where it lay a long time, till Aquapendente difcovered the fecret to Harvey, who then ftudied under him at Padua, and who, upon his return to England, a land of liberty, publifhed it as his own. But Sir George Ent has fhewn, that father Paul received the firft notion of the circulation of the blood from Harvey's book on that fubject, which was carried to Venice by the ambaffador of the republic at the court of England.

The circulation of the blood was altogether unknown to the antients: they thought that all the blood came from the liver, and that the greateft part of it paffed into the vena cava, and fo into all the branches belonging to it; but in fuch a manner, that in coming out from the liver, a confiderable quantity of it turns about, and enters into the right cavity of the heart, where it is divided into two parts, one of which runs through the vena arteriofa, into the lungs, and the other through the medium feptum into the left cavity; where they fay it is converted into arterial blood, or vital fpirits, which is carried into the lungs by the arteria venofa, and all over the body by the arteria magna and its branches.

Circulation *of the fpirits or nervous juices.* The circulation of the fpirits is evinced in the fame manner as fome authors choofe to prove the circulation of the blood, *viz.* that the heart drives out, every hour, three or four thoufand ounces of blood, whereas ordinarily there is not above two thoufand in the whole body, there is a neceffity for the blood, driven out, to return to the heart, in order to fupply a fund to be expelled.

In like manner it is fhewn, that there is formed, each hour, a large quantity of fpirits, which are nothing but the more fubtile parts of the blood, driven out from the brain: whence it is inferred that thefe too muft circulate.

Circulation *of the fap of vegetables*, is a natural motion of the nutricious juice of plants, from the root to the extreme parts, and thence back again to the root.

That there is a circulation in the bodies of vegetables feems to be evinced by the experiments of modern naturalifts and gardeners, by means of certain veffels analogous to the veins and arteries in animals. See the articles Plant and Sap.

Circulation, in chemiftry, is an operation whereby the fame vapour, raifed by fire, falls back, to be returned and diftilled feveral times, and this reduced into its moft fubtile parts.

Circulation is performed by difpofing the liquor in a fingle veffel, ftopped at top, and called a pelican; or in a double veffel, confifting of two pieces, luted on each other; the lower to contain the liquor, and its vapours. It is performed either by the heat of a lamp, or that of afhes or of fand moderately hot; or in dung, or by the fun. It ufually demands a continued heat of feveral days, fometimes of feveral weeks, or even feveral months. By circulation the fineft part of the fluid mounts to the top of the veffel, and finding no iffue there, falls back again, and rejoins the matter at bottom, whence it arofe.

Circulation *of money.* It is the opinion of Mr. Poftlethwayt, that the money that

that carries on the whole circulation of a ſtate, is near the quantity of one third part of all the annual rents of the proprietors of the land; and that where the proprietors have one half or two thirds of the produce of the land, and where the circulation is not much helped by barters and evaluations, the quantity of the money muſt certainly be greater.

CIRCULATORY, *circulatorium*, the chemical veſſel wherein the operation of circulation is performed. See the article CIRCULATION.

CIRCULUS, CIRCLE, in geometry, logic, &c. See the article CIRCLE.

CIRCULUS, in chemiſtry, an iron inſtrument in form of a ring, which being heated red-hot, and applied to the necks of retorts and other glaſs veſſels, till they grow hot, a few drops of cold water thrown upon them, or a cold blaſt, will make the necks fly regularly and evenly off.

Another method of doing this, is to tie a thread, firſt dipt in oil of turpentine, round the place where you would have it break; and then ſetting fire to the thread, and afterwards ſprinkling the place with cold water, the glaſs will crack exactly where the thread was tied.

CIRCUMAGENTES MUSCULI, or OBLIQUI MUSCULI, in anatomy, are certain oblique muſcles of the eyes, ſo called from helping to wind and turn the eyes about.

Theſe muſcles, called alſo the oblique muſcles of the eye, or the rotatores, are two, a larger and a ſmaller: the larger, ariſing near the interior adducens, paſſes through a ſingular trochlea, of an almoſt cartilaginous ſtructure, near the canthus of the eye, from thence it turns back, and is inſerted into the upper part of the eye, near its middle; hence it obliquely depreſſes the pupil, and in ſome degree draws it outward.

The leſſer ariſes from the anterior and inner part of the orbit, not far from the naſal canal: it ſurrounds obliquely the lower part of the bulb, and is inſerted into its exterior part, near the middle; hence it moves the pupil of the eye obliquely upwards: both theſe obliqui acting together, draw the eye forwards; and thus they are antagoniſts of the recti, which draw it backwards.

CIRCUMAMBIENT, an appellation given to a thing that ſurrounds another on all ſides; chiefly uſed in ſpeaking of the air. See the article AIR.

CIRCUMCISION, the act of cutting off the prepuce; or a ceremony in the jewiſh and mahometan religions, wherein they cut off the fore-ſkin of their males, who are to profeſs the one or the other law. Circumciſion, among the Jews, was a federal rite, annexed by God, as a ſeal to the covenant which he made with Abraham and his poſterity, and was accordingly renewed, and taken into the body of the moſaical conſtitutions. The time for performimg this rite was the eighth day, that is, ſix full days after the child was born: the law of Moſes ordained nothing with reſpect to the perſon by whom, the inſtrument with which, or the manner how, the ceremony was to be performed; the inſtrument was generally a knife of ſtone. The child is uſually circumciſed at home, where the father, or godfather, holds him in his arms, while the operator takes hold of the prepuce with one hand, and with the other cuts it off; a third perſon holds a porringer, with ſand in it, to catch the blood; then the operator applies his mouth to the part, and having ſucked the blood, ſpits it into a bowl of wine, and throws a ſtyptic powder upon the wound. This ceremony was uſually accompanied with great rejoicings and feaſting, and it was at this time that the child was named, in preſence of the company. The Jews invented ſeveral ſuperſtitious cuſtoms at this ceremony, ſuch as placing three ſtools, one for the circumciſor, the ſecond for the perſon who holds the child, and the third for Elijah, who, they ſay, aſſiſts inviſibly at the ceremony, &c.

The Jews diſtinguiſhed their proſelytes into two ſorts, according as they became circumciſed, or not: thoſe who ſubmited to this rite were looked upon as children of Abraham, and obliged to keep the laws of Moſes: the uncircumciſed were only bound to obſerve the precepts of Noah, and were called noachidæ.

This ceremony, however, was not confined to the Jews: Herodotus and Philo Judæus obſerve, that it obtained alſo among the Egyptians and Ethiopians. Herodotus ſays, that the cuſtom was very antient among each people, ſo that there was no determining which of them borrowed it from the other. The ſame hiſtorian relates, that the inhabitants of Colchis alſo uſed circumciſion; whence he concludes, that they were originally Egyptians.

The Turks never circumciſe till the ſeventh

venth or eighth year, as having no notion of its being neceffary to falvation. The Perfians circumcife their boys at thirteen, and their girls from nine to fifteen. Thofe of Madagafcar cut the flefh at three feveral times; and the moft zealous of the relations prefent, catches hold of the preputium, and fwallows it.

Circumcifion is practifed on women by cutting off the fore-fkin of the clitoris, which bears a near refemblance and analogy to the preputium of the male penis. We are told that the Egyptian captive women were circumcifed; and alfo the fubjects of Prefter John.

CIRCUMCISION is alfo the name of a feaft, celebrated on the firft of January, in commemoration of the circumcifion of our Saviour.

CIRCUMFERENCE, in a general fenfe, denotes the line or lines bounding a plane figure. However, it is generally ufed in a more limited fenfe, for the curve line which bounds a circle, and otherwife called a periphery; the boundary of a right-lined figure being expreffed by the term perimeter.

Any part of the circumference is called an arch, and a right line drawn from one extreme of the arch to the other, is called a chord.

The circumference of every circle is fuppofed to be divided into 360 degrees. The angle at the circumference of a circle is double that at the center. See the article ANGLE.

For the ratio of the circumference of a circle to its radius, fee the article CIRCLE.

CIRCUMFERENTOR, an inftrument ufed by furveyors, for taking angles.

It confifts of a brafs index and circle, all of a piece. The index is commonly about fourteen inches long, and an inch and a half broad; the diameter of the circle is about feven inches. On this circle is made a chart, whofe meridian line anfwers to the middle of the breadth of the index, and is divided into 360 degrees. There is a brafs-ring foldered on the circumference of the circle, on which fcrews another ring, with a flat glafs in it, fo as to form a kind of box for the needle, fufpended on the pivot in the center of the circle. See plate XLII. fig. 2. n° 1. There are alfo two fights to fcrew on, and flide up and down the index; as alfo a fpangle and focket fcrewed on the back fide of the circle, for putting the head of the ftaff in.

How to obferve the quantity of an angle by the CIRCUMFERENTOR.

Let it be required to find the quantity of the angle E K G plate XLII. fig. 2. n° 2. Firft, place your inftrument at K, with the flower-de-luce of the chart towards you; then direct your fights to E, and obferve what degrees are cut by the fouth end of the needle, which let be 296; then, turning the inftrument about, direct your fights to G, noting then alfo what degrees are cut by the fouth end of the needle, which fuppofe 182. This done, always fubftract the leffer from the greater, as in this example, 182 from 296, the remainder is 114 degrees, which is the true quantity of the angle E K G.

CIRCUMFLEX, in grammar, one of the accents. See the article ACCENT.

CIRCUMGYRATION, denotes the whirling motion of any body round a center; fuch is that of the planets round the fun.

CIRCUMINCESSION, in theology, a term whereby the fchoolmen ufed to exprefs the exiftence of three divine perfons in one another, in the myftery of the trinity.

CIRCUMLOCUTION, a paraphraftical method of expreffing ones thoughts, or faying that in many words, which might have been faid in few.

CIRCUMLOCUTION, in oratory, is the avoiding of fomething difagreeable, or inconvenient to be expreffed in direct terms, by imitating the fenfe thereof in a kind of paraphrafe, fo conceived as to foften and break the force thereof.

CIRCUM-POLAR STARS, an appellation given to thofe ftars, which by reafon of their vicinity to the pole, move round it without fetting.

CIRCUMSCRIBED, in geometry, is faid of a figure which is drawn round another figure, fo that all its fides or planes touch the infcribed figure.

CIRCUMSCRIBED HYPERBOLA, one of Sir Ifaac Newton's hyperbolas of the fecond order, that cuts its afymptotes, and contains the parts cut off within its own fpace.

CIRCUMSCRIBING, in geometry, denotes the defcribing a polygonous figure about a circle, in fuch a manner, that all its fides fhall be tangents to the circumference.

Sometimes the term is ufed for the defcribing a circle about a polygon, fo that each fide is a chord; but in this cafe it is more ufual to fay the polygon is infcribed, than the circle is circumfcribed.

Fig. 1. CIRCULATION of the Blood.

Fig. 2. CIRCUMFERENTOR.

N.º 1. N.º 2

G K E

Fig. 3. CISSOID.

N.º 1.

A E P N M F D g K B G H F C Z P

N.º 2.

A P G K B M N O L H F Z C

Fig. 4. CIVIC CROWN.

Fig. 5. CLARION.

Fig. 8. CONDENSER.

Fig. 6. CLECHE.

Fig. 7. CLEMATIS, *Virgin's Bower*.

T. Jefferys sculp.

CIRCUMSCRIPTION, in natural philosophy, the termination, bounds, or limits of any natural body.

They make it either internal, which belongs to the essence and quantity of every body, whereby it hath a certain determinate extension, bounds, and figure; or external, which they call also local, because it is referred to the place within which any body is confined: for a body is said to be circumscribed locally, or to be in a place circumscriptively, when it hath a certain and determinate *ubi*, or place, in respect of the circumambient bodies.

CIRCUMSTANCE, a particularity which, though not essential to any action, yet doth some way affect it.

Some circumstances are reckoned purely physical, not connecting any moral good or evil with any action; such as killing a man with a right or left hand, *&c.* others are accounted properly moral, because they do really influence our actions, and render them more good or evil than they would have been without such circumstances. Divines say, that the conversion of a sinner, depends on a certain assemblage and certain management of external circumstances, in the midst whereof he is placed; which arrangement of circumstances depends on the providence of God, whence conversion also depends on him.

The writers of ethics sum up all the circumstances of the actions of men in this one verse.

Quis, quid, ubi, quibus auxiliis, cur, quomodo, quando.

CIRCUMSTANTIBUS, in law, a term used for supplying and making up the number of jurors (in case any impannelled appear not, or appearing, are challenged by either party) by adding to them so many of the persons present, as will make up the number, in case they are properly qualified.

CIRCUMVALLATION, or *line of* CIRCUMVALLATION, in the art of war, is a trench bordered with a parapet, thrown up quite round the besieger's camp, by way of security against any army that may attempt to relieve the place, as well as to prevent desertion.

This trench ought to be at the distance of cannon shot from the place: it is usually twelve feet broad, and seven deep; and at small distances is flanked with redoubts, and other small works, or with field forts, raised on the most proper eminences. It ought never to be drawn at the foot of a rising ground, lest the enemy seizing on the eminence, should erect batteries of cannon there, and so command the line.

CIRCUMVOLUTION, in architecture, denotes the torus of the spiral line of the ionic volute.

CIRCUS, in antiquity, a great building of a round or oval figure, erected by the antients, to exhibit shews to the people.

The roman circus was a large, oblong edifice, arched at one end, encompassed with porticoes, and furnished with two rows of seats, placed ascending over each other. In the middle was a kind of foot bank, or eminence, with obelisks, statues, and posts at each end. This served them for the courses of their bigæ and quadrigæ, See the articles, BIGA, *&c.*

Those that have measured the circus say, that it was 2187 feet long, and 960 broad; so that it was the greatest building in Rome: some say it would contain 150,000 people, others 260,000, or 300,000.

Julius Cæsar adorned it with magnificent buildings, which he encompassed with fine canals of water, called Euripi, to represent sea-fights in. The spectators sat on benches one above another, in the form of a hill. Augustus enlarged the circus, and erected an obelisk 125 feet high. Claudius built ornaments of marble for the dens of wild beasts, which were exhibited for the pleasures of the people, that before were made only of earth or wood. Caracalla painted and gilded divers parts of it; and lastly, Heliogabalus covered the floor with gold and silver dust, and he filled the pits with wine, on which he represented a sea-fight. The circus was dedicated to the sun, as a little temple of the sun in the middle denoted: some say that there were eight circuses in Rome, of which several were either through vanity or devotion built, for the ornament of the city. For the games, *&c.* of the circus, see the article CIRCENSIAN.

CIRENCESTER, a borough-town of Gloucestershire, situated on the river Churn, fifteen miles south-east of Gloucester: west long. 2°, north lat. 51° 42'. It sends two members to parliament.

CIRRI, among botanists, fine strings or thread-like filaments, by which some plants fasten themselves to walls, trees, *&c.* such are those of ivy.

CIRRI, in ichthyology, certain oblong and soft

soft appendages, not unlike little worms, hanging from the under jaws or mouths of some fishes: these cirri, commonly translated beards, afford marks to distinguish the different species of the fish on which they are found. As to their use, it may be to give notice of approaching danger, or prey; since by their hanging position, as well as by their soft texture, they must be more sensible of any motion in the water, than any other part.

CIRRIS, in ornithology, the brown ardea, with the head variegated with black and yellow. See the article ARDEA.

CIRSOCELE, or HERNIA VARICOSA, in surgery, a preternatural distension or divarication of the spermatic veins in the process of the peritonæum, immediately above the testicle, and sometimes higher up in the scrotum, or even in the groin, insomuch that they resemble the intestines of a bird, and equal the size of a goose quill, with varicose nodes, by which means the testicle appears much bigger, and hangs down lower than it should do. The cause of this disorder is thought to be in the blood, being either too redundant in quantity, or of too thick and gluey a consistence; so that by stagnating in these veins in too great quantities, it causes them to be thus preternaturally distended. Frequently the disorder also arises from some external violence whereby the coats of the vessels are contused, overstretched, and weakened, and the blood by that means impeded in its course.

This disorder seldom gives the patient much trouble or uneasiness; nor is there any necessity for the use of medicines, and much less any chirurgical operations, except when it becomes intolerable by violent pains.

If through pain, or other uneasiness, it becomes necessary to try some means, as in healthy constitutions this disorder may arise from a redundancy of semen, in the spermatic veins, the most ready and effectual remedy will be matrimony; but if the case should happen to be in a person already married, there is but little room to expect a cure from medicines: however, such topical remedies may be applied, as are known to attenuate the blood, and strengthen the relaxed parts. The patient should also be blooded.

When other means have proved ineffectual, and the disorder still increases, the opening those vessels which are most distended, the whole length of the tumor, is much approved of; and after letting them discharge a few ounces of blood, to make the dressings with scraped lint, a vulnerary plaster, compress and proper bandage, and to treat the wound, in the subsequent dressings, with some vulnerary balsam.

CISALPINE, any thing on this side the Alps. Thus the Romans divided Gaul into cisalpine and transalpine. It must be observed, however, that what was cisalpine with regard to the Romans, is transalpine with regard to us.

CISLEU, in hebrew chronology, the ninth month of their ecclesiastical, and the third of the civil year, answering nearly to our November.

CISSAMPELOS, in botany, a genus of the dioecia hexandria class of plants, without any calyx: the male flower consists of four ovated, plain, patent petals; the fruit is a globose, unilocular berry, containing a solitary rugose seed.

CISSOID, in geometry, a curve of the second order, first invented by Diocles, whence it is called the cissoid of Diocles. See the article CURVE.

Sir Isaac Newton, in his appendix *de æquationum constructione lineari*, gives the following elegant description of this curve, and at the same time shews how, by means of it, to find two mean proportionals, and the roots of a cubic equation, without any previous reduction. Let A G, (plate XLII. fig. 3. N°. 1.) be the diameter, and F the center of the circle belonging to the cissoid; and from F draw F D, F P at right angles to each other, and let F P be = A G; then if the square P E D be so moved that one side E P always passes through the point P, and the end D of the other side E D slides along the right line F D, the middle point C of the side E D, will describe one leg G C of the cissoid; and by continuing out F D on the other side F, and turning the square about by a like operation, the other leg may be described.

This curve may likewise be generated by points in the following manner.

Draw the indefinite right line B C (*ibid.* N° 2.) at right angles to A B the diameter of the semicircle A O B, and draw the right lines A H, A F, A C, *&c.* then if you take A M = L H, A O = O F, Z C = A N, *&c.* the points M, O, Z, *&c.* will form the curve A M O Z of the cissoid.

Properties of the CISSOID. It follows from the genesis, that drawing the right lines P M, K L, perpendicular to A B, the lines AK, PN, AP, PM, as also AP, PN,

PN, AK, KL, are continual proportionals, and therefore that AK = PB, and PN = IK. After the fame manner it appears, that the ciffoid AMO, bifects the femicircle AOB. Sir Ifaac Newton, in his laft letter to Mr. Leibnitz, has fhewn how to find a right line equal to one of the legs of this curve, by means of the hyperbola; but fuppreffed the inveftigation, which, however, may be feen in his Fluxions. The ciffoidal fpace contained under the diameter AB, the afymptote BC, and the curve AOZ of the ciffoid, is triple that of the generating circle AOB. See Dr. Wallis's mathematical works, Vol. I. p. 545, and feq.

CISSUS, in botany, a genus of plants belonging to the tetrandria-monogynia clafs of Linnæus; the flower of which confifts of one petal, lightly divided into four fegments; and the fruit is a roundifh berry, containing only a fingle feed.

CISTERCIANS, in church-hiftory, a religious order founded in the eleventh century by St. Robert, a benedictine. They became fo powerful, that they governed almoft all Europe, both in fpirituals and temporals. Cardinal de Vitri defcribing their obfervances, fays, they neither wore fkins nor fhirts, nor ever eat flefh, except in ficknefs; and abftained from fifh, eggs, milk and cheefe: they lay upon ftraw-beds in their tunics and cowls: they rofe at midnight to prayers: they fpent the day in labour, reading and prayer: and in all their exercifes obferved a continual filence. The habit of the ciftercian monks is a white robe, in the nature of a caffock, with a black fcapulary and hood, girt with a woolen girdle. The nuns wear a white tunic, and a black fcapulary and girdle.

CISTERN, denotes a fubterraneous refervoir of rain-water; or a veffel ferving as a receptacle for rain or other water, for the neceffary ufes of a family.

If a ciftern is to be made in a cellar to preferve water for culinary ufes, the brick or ftone fhould be laid with terras, or cemented with a compofition of flacked fifted lime and linfeed oil, tempered together with tow or cotton-wool. In this cafe the bottom fhould be covered with fand, to fweeten and preferve it.

In making ciſterns, the walls fhould be good and built to advantage, for fear the water fhould be loft; and the infide fhould be well cemented, efpecially in the angles.

There are likewife lead-cifterns, jar-cifterns, &c. See the article PLUMBERY, &c.

Authors mention a ciftern of Conftantinople, the vaults of which are fupported by two rows of pillars, 212 in each row, each pillar being two feet in diameter. They are planted circularly, and in radii, tending to that in the center.

CIST, or CYST. See the article CYST.

CISTIC, or CYSTIC. See CYSTIC.

CISTULA, or *Catoptric* CISTULA. See the article CATOPTRIC.

CISTUS, in botany, a genus of the polyandria-monogynia clafs of plants, the flower of which confifts of five roundifh, plain, patent, very large petals; the fruit is a roundifh capfule, containing numerous fmall roundifh feeds. This plant is of an inebriating quality, for which reafon, in many places of Saxony, they boil it in their beer, They lay it alfo among clothes, to expel moths.

CITADEL, a place fortified with four, five, or fix baftions, built on a convenient ground near a city, that it may command it in cafe of a rebellion. The city therefore is not fortified on the part oppofite to the citadel, tho' the citadel is againft the city. The beft form for a citadel is a pentagon, a fquare being too weak, and a hexagon too big.

CITATION, in ecclefiaftical courts, is the fame with fummons in civil courts. See the article SUMMONS.

A perfon is not to be cited out of the diocefe where he lives, unlefs it be by the archbifhop in default of the ordinary, or where the ordinary is party to the fuit, and in cafes of appeal.

CITATION is alfo a quotation of fome law, authority, or paffage of a book.

CITHARA, in antiquity, a mufical inftrument, the precife ftructure of which is not known; fome think it refembled the greek delta Δ; and others, the fhape of a half moon. At firft it had only three ftrings, but the number was at different times increafed to eight, to nine, and laftly to twenty-four. It was ufed in entertainments and private houfes, and played upon with a plectrum or quill, like the lyre. See the article LYRE.

CITHAREXYLON, in botany, a genus of the didynamia-angiofpermia clafs of plants; the cup of which is divided into five deep fegments; and the flower is infundibuliform, and rotated; the fegments being all equal, and villofe on the upper fide.

CITHARISTA, or CITHAROEDUS, in antiquity, one who played on the cithara, diftin-

distinguished from all other musicians by an embroidered cloak. See CITHARA.

CITILLE, *citillus*, in zoology, a species of mus, with a short tail, and no auricles or external ears: it is also called *mus noricus*. See the article MUS.

CITIZEN, *civis*, a native or inhabitant of a city, vested with the freedom and liberties of it.

A citizen of Rome was distinguished from a stranger, because he belonged to no certain commonwealth subject to the Romans. A citizen is either by birth or election; and sons may derive the right from their fathers. To make a good roman citizen, it was necessary to be an inhabitant of Rome, to be inrolled in one of the tribes, and to be capable of dignities. Those strangers to whom were granted the rights and privileges of roman citizens, were only honorary citizens. It was not lawful to scourge a citizen of Rome.

The Romans were antiently so particularly careful to preserve even their common citizens from any mixture of servile blood, that they prohibited all marriages between them and freed slaves, or their children. And it was decreed, as a special privilege and reward to one Hispala, of libertine condition, for her discovery of the impieties of the bacchanalian mysteries, that a citizen might take her to wife, without any disgrace and diminution of his rights. These distinctions, indeed, began to be disregarded towards the end of the republic, with respect to the ordinary citizens, but were kept up to the last, with regard to the senate. Augustus, upon numbering the roman citizens, found they amounted to upwards of four millions.

CITRINUS, in natural history, a kind of sprig crystal, of a fine yellow colour.

Many of the common crystals, when in the neighbourhood of lead mines, are liable to be accidentally tinged yellow, by an admixture of the particles of that metal; and all these, whether finer, or coarser, have been too frequently confounded together, under the name citrine; but Dr. Hill has ascertained this to be a peculiar species of crystal, different from all the other kinds in form, as well as colour, and distinguished by the name of *ellipomacrostylum lucidum flavescens pyramide brevi*. It is never found colourless, like the other crystals, but has great variety of tinges, from that of deeper ochres to a pale lemon colour. It is very plentiful in the West-Indies, and is found in some parts of Bohemia. Our jewellers have learnt from the French and Italians, who are very fond of it, to call it citrine, and often cut stones for rings out of it, particularly out of the pyramid, which is always finer than the column, and these, after they have passed through two or three hands, are generally mistaken for topazes.

CITRON-TREE, *citrus*, in botany. See the article CITRUS.

CITRUL, *citrullus*, makes a distinct genus of plants, according to some, otherwise called anguria; but Linnæus comprehends it among the cucumbers: it is said to have the same medicinal qualities with the cucurbita or gourd.

CITRUS, the CITRON-TREE, in botany, a genus of the polyadelphia-icosandria class; the flower of which consists of five oblong, plain, patent petals: the fruit is a berry with a fleshy rind, a pulp consisting of vesicles and with nine cells, containing two subovated callous seeds in each cell.

The fruit of this tree has much the same qualities with the lemon, from which it is distinguished by its firmness, greater bulk, brisker smell, and higher colour. We have essences, oils, confections, and waters obtained from it.

CITTADELLA, the capital of the island of Minorca, about twenty-three miles west of Port-Mahon: east longitude 3° 30′, north latitude 40°.

It is likewise the name of a town in Italy, in the Padouan, between Vicenza and Trevigni.

CITY, *urbs*, a large populous town, capital of some country, province, or district; or the see of a bishop.

Town and city are frequently used in a synonymous sense; however, custom seems to have appropriated the term city to such towns as are, or formerly were, the sees of a bishop: hence it is, that Edinburgh, Glasgow, *&c.* are still called cities, though they are no longer the sees of bishops, since the establishment of presbytery in Scotland.

Many are the causes that render large cities more unhealthy than other places, as narrow and dirty streets, crowded jails and hospitals, burials within the body of the place, and the like. To the stagnation of air, and putrid effluvia, occasioned by these means, are owing a multitude of malignant disorders, not to be remedied but by purer air and a country life.

Imperial

Imperial Cities, an appellation given to those cities of Germany, immediately subject to the emperor: they make a part of the germanic body, are governed by their own magistrates, have the privilege of coining money, and assist at the diet of the empire: they are forty-eight in all, and are distinguished as they occur under their several articles in the order of the alphabet.

City, *civitas*, among the antients, was used in a synonymous, sense with what we now call an imperial city; or rather answered to those of the Swiss cantons, the republics of Venice, Genoa, *&c.* as being an independent state, with territories belonging to it.

CIVES, the english name of a species of onion, growing in tufts, and seldom exceeding six inches in heighth: they never produce any bulbs, and are much used in sallads in spring.

CIVET, *zibethum*, a soft unctuous matter produced in the manner of musk, in bags growing from the lower part of the belly of a civet-cat. See Zibethicus.

There is a great trade of civet at Calicut, at Bassora, and in other parts of the Indies and in Africa. Live cats are also to be seen in Holland, where they are kept by persons who draw the civet from them for sale, the civet at Amsterdam having the preference of what comes from the Levant and the Indies. Civet should be chosen new, and of the same colour on the surface as within; of a moderate consistence, not too soft nor too dry, the former generally denoting its being adulterated, the latter, its being decayed It should be of a very strong disagreeable smell. It is adulterated by mixing with it the gall of an ox and storax liquified. Civet has been greatly esteemed in medicine as a cordial, sudorific, and resister of poisons, and was a long time famous, externally applied to the pudenda of women in hysteric cases; but this practice has been found not only ineffectual, but hurtful. It is little used at present, except in a deafness from cold, being an article wholly confined to confectioners and perfumers.

Civet-cat, the english name of the animal which produces the civet, called by zoologists zibethicus. See Zibethicus.

CIVIC crown, *corona civica*, was a crown given by the antient Romans to any soldier who had saved the life of a citizen in any engagement. This was accounted more honourable than any other crown, though composed of no better materials than oaken boughs. See plate XLII. fig. 4.

It was a particular honour conferred upon any that merited this crown, that when they came to any of the public shews, the whole company, as well senate as people, should signify their respect, by rising up, as soon as they saw them enter, and that they should take their seats upon these occasions among the senators; being also excused from all troublesome duties and services in their own persons, and procuring the same immunities for their father and grandfather.

CIVADAD-REAL, a city of Spain, in the province of New Castile: it is the capital of La Mancha, situated on the river Guadiana, sixty miles south of Toledo: west longitude 4° 20′, north latitude 39°.

Cividad-rodrigo, a city of Spain, in the province of Leon, near the confines of Portugal, situated on the river Agnada, forty-five miles south-west of Salamanca: west longitude 6° 50′, north lat. 40° 40′.

CIVIL, *civilis*, in a general sense, something that regards the policy, public good, or peace of the citizens, or subjects of the state; in which sense we say, civil government, civil law, civil right, civil war, *&c.*

Civil, in a legal sense, is also applied to the ordinary procedure in an action, relating to some pecuniary matter or interest, in which sense it is opposed to criminal.

Civil-death, any thing that retrenches or cuts off a man from civil society, as a condemnation to the gallies, perpetual banishment, condemnation to death, outlawry, and excommunication.

The term is also applied to those who are no longer capable of acting in temporal concerns, as those who renounce the world, who retire and make vows in a monastery, *&c.*

Civil history. See History.

Civil law, is properly the peculiar law of each state, country, or city: but what we usually mean by the civil law, is a body of laws composed out of the best roman and grecian laws, compiled from the laws of nature and nations, and, for the most part, received and observed throughout all the roman dominions for above 1200 years.

The Romans took the first grounds of this law from the twelve tables, which were

were abridgments of the laws of Solon, at Athens, and of other celebrated cities of Greece; to which they added their own antient customs of the city of Rome: these written laws were subject to various interpretations, whence controversies arising, they were determined by the judgment of the learned; and these determinations were what they first called *jus civile*, after their several cases were composed; which, lest the people should make them at pleasure, were fixed, certain and solemn; and this part of their law they called *actiones juris*, cases at law. The Romans had also their *plebiscita*, which were laws made by the commons, without the authority of the senate. The *jus honorarium*, which was an edict of some particular magistrate, the *senatus consultum*, an ordinance made by the sole authority of the senate, and the *principalis constitutio*, which was enacted by the prince or emperor. These laws grew, by degrees, to a vast number of volumes, and therefore the emperor Justinian commanded his chancellor Tribonianus, with the assistance of some other eminent lawyers, to reduce it to a perfect body.

The body of the civil law is divided into three volumes, which are still remaining, *viz.* the pandects or digests, the code, and the institutes: to these were afterwards added the authentics or constitutions of Justinian, called also novellæ, or novels.

The civil law is not received at this day in any one nation, without some addition or alteration: for sometimes the feudal law is mixed with it, or general or particular customs; and often ordinances and statutes cut off a great part of it. In Turkey, the Justinian greek code is only used. In Italy, the canon law and customs have excluded a good part of it. In Venice, custom hath almost an absolute government. In the Milanese, the feudal law and particular customs bear sway. In Naples and Sicily, the constitutions and laws of the Lombards are said to prevail. In Germany and Holland, the civil law is esteemed to be the municipal law; but yet many parts of it are there grown obsolete, and others are altered, either by the canon law, or a different usage. In Friezland, it is observed with more strictness; but in the northern parts of Germany, the jus saxonicum, lubecense, or culmense, is preferred to it. In Denmark and Sweden, it hath scarce any authority at all. In France, only a part of it is received, and that part is in some places as a customary law; and in those provinces nearest to Italy, the municipal written law. In criminal cases, the civil law is more regarded in France; but the manner of trial is regulated by ordinances and edicts. The civil law in Spain and Portugal, is corrected by the *jus regium* and custom. In Scotland, the statutes of the Sederunt, part of the Regiæ Majestatis, and their customs, controul the civil law. In England, it is used in the ecclesiastical courts, in the courts of the admiralty, and in the two universities; yet in all these it is restrained and directed by the common law.

CIVIL WAR, a war between people of the same state, or the citizens of the same city.

CIVIL YEAR is the legal year, or annual account of time, which every government appoints to be used within its own dominions, and is so called in contradistinction to the natural year, which is measured exactly by the revolution of the heavenly bodies.

CIVILIAN, in general, denotes something belonging to the civil law; but more especially the doctors and professors thereof are called civilians: of these we have a college or society in London, known by the name of doctors-commons. See the article DOCTORS-COMMONS.

CIVILIZATION, in law, a judgment which renders a criminal process civil. It is performed by turning the information into an inquest and *vice versa*.

CIVITA CASTELLANA, a city of Italy, in St. Peter's patrimony, situated near the river Tiber, twenty-five miles north of Rome: east longitude 13°, north latitude 42° 15'.

CIVITA VECCHIA, a port-town and fortress of Italy, in St. Peter's patrimony, situated on a bay of the Mediterranean, thirty miles north-west of Rome: east longitude 12° 20', north latitude 42°. It is the station of the gallies belonging to the pope, who has lately declared it a free port.

CLACK, among countrymen. To clack wool, is to cut off the sheep's mark, which makes the weight less, and yields less custom to the king.

CLACKMANNAN, the capital of Clackmannanshire, in Scotland, situated on the northern shore of the Forth, about twenty-five miles north-west of Edinburgh: west longitude 3° 40', north lat. 56° 15'.

The

The county of Clackmannan is joined with that of Kinrofs, which each in their turn choofe a member to reprefent them in parliament.

CLADONIA, in botany, a genus of moffes confifting of a firm, tough, and flexible matter, formed into ftalks of a roundifh figure, fometimes almoft fimple, fometimes more ramified, and in many of the fpecies refembling fmall fhrubs.

There are four fpecies of this genus, *viz.* the forked cladonia, the branched, hollow cladonia, the folid, branched cladonia, and the tophaceous cladonia, otherwife called the orcelle or canary-weed.

CLAGENFURT, or CLAGENFORT, the capital of Carinthia, in the circle of Auftria in Germany, 120 miles fouth-weft of Vienna: eaft long. 14°, north lat. 47°.

CLAIM, in law, a challenge of intereft in any thing that is in poffeffion of another, as claim by charter, defcent, acquifition, *&c.*

Claim is either verbal or by action, and is fometimes for lands, fometimes for goods and chattels. It may be made by the party himfelf, and likewife by his fervant or deputy, but not by a meer ftranger in his name.

By the common law, claim is to be within a year and a day after the perfon is diffeized of land.

CLAIM *of liberty*, is a fuit to the king in the court of exchequer, to have liberties confirmed there by the attorney-general.

CLAIM *of right*. See RIGHT.

Falfe CLAIM, is a term ufed in the foreft-laws, where a perfon claims more than his due, for which he is liable to be amerced.

Quit CLAIM. See the article QUIT.

Continual CLAIM. See CONTINUAL.

CLAIR-OBSCURE, CHIARO-SCURO, or CLARO-OBSCURO. See the article CLARO-OBSCURO.

CLAKIS, in ornithology, a name ufed in fome parts of the kingdom for the bernacle. See the article BERNACLE.

CLAMEA ADMITTENDA, *in itinere per attornatum*, is a writ by which the juftices in eyre are commanded to admit a perfon's claim by attorney, when he is employed in the king's fervice, and cannot perfonally appear.

CLAMOR, in the french laws, imports the complaint of a perfon imploring juftice againft the oppreffion of another.

CLAMP *in a fhip*, denotes a piece of timber applied to a maft or yard, to prevent the wood from burfting; and alfo a thick plank lying fore and aft under the beams of the firft orlop, or fecond deck, and is the fame that the rifing timbers are to the deck.

CLAMP, is likewife the term for a pile of unburnt bricks built up for burning. Thefe clamps are built much after the fame manner as arches are built in kilns, *viz.* with a vacuity betwixt each brick's breadth for the fire to afcend by; but with this difference, that inftead of arching, they trufs over, or over fpan; that is, the end of one brick, is laid about half way over the end of another, and fo till both fides meet within half a brick's length, and then a binding brick at the top, finifhes the arch.

CLAMP-NAILS, fuch nails as are ufed to faften on clamps in the building or repairing of fhips.

CLAMPING, in joinery, is the fitting a piece of board with the grain, to another piece of board crofs the grain. Thus the ends of tables are commonly clamped, to prevent their warping.

CLANCULARII, a fect of anabaptifts, who taught that it was not neceffary to make an open profeffion of the faith.

CLANDESTINE, any thing done without the knowledge of the parties concerned, or without the proper folemnities. Thus a marriage is faid to be clandeftine, when performed without the publication of banns, the confent of parents, *&c.* And as fuch marriages are very detrimental to fociety, as well as deftructive of the peace and happinefs of private families, the legiflature has lately thought proper to enact, that all marriages of that kind, from the month of March 1754, fhall be null and void. See the article MARRIAGE.

CLANGULA, the GOLDEN-EYE, in ornithology, a fpecies of anas, with a greenifh black head, a black and white body, and a white fpot at the mouth. See ANAS.

CLAP, in medicine, the firft ftage of the venereal difeafe, more ufually called a gonorrhœa. See GONORRHOEA.

CLAP, in falconry, denotes the under part of a hawk's beak.

CLAP-BOARD, among coopers, denotes any kind of boards proper for making cafks or other veffels of. See the article BOARD.

CLAP-NET, a device for catching larks. You intice the birds with calls, and when they are within your diftance, you pull a cord, and your net flies up and claps over them. See the article NET.

It is likewife called doring or daring.

CLAR, or CLAER, among metallurgifts, denotes the powder of bone-afhes, kept for covering the infides of coppels. See the article COPPEL.

CLARA, or St. CLARA, an ifland of Peru, in South America, fituated in the bay of Guiaquil, feventy miles fouth-weft of the city of Guiaquil: weft longitude 80°, fouth latitude 3° 30′.

CLARAMONT-POWDER, a kind of earth, called *terra de baira*, from the place where it is found: it is famous at Venice, for its efficacy in ftopping hæmorrhages of all kinds, and in curing malignant fevers.

CLARE, a market-town of Suffolk, thirteen miles fouth of Bury: eaft longitude 35′, north latitude 52° 15′.

It gives the title of earl to the duke of Newcaftle.

CLARE is alfo the capital of a county of the fame name in the province of Connaught, in Ireland, fituated about feventeen miles north-weft of Limerick: weft longitude 9°, north latitude 52° 40′.

CLARENCIEUX, the fecond king at arms, fo called from the duke of Clarence, to whom he firft belonged; for Lionel third fon to Edward III. having by his wife the honour of Clare, in the county of Thomond, was afterwards declared duke of Clarence; which dukedom afterwards efcheating to Edward IV. he made this earl a king at arms. His office is to marfhal and difpofe of the funerals of all the lower nobility, as baronets, knights, efquires, on the fouth fide of the Trent; whence he is fometimes called Surroy, or South-roy, in contradiftinction to Norroy.

CLARENDON. The conftitutions of Clarendon, are certain ecclefiaftical laws drawn up at Clarendon, near Salifbury. They were fixteen in number, all tending to reftrain the power of the clergy, and readily affented to by all the bifhops and barons, the archbifhop Becket excepted, who oppofed them at firft, but was afterwards prevailed upon to fign them. The pope Alexander III. declared againft and annulled moft of them.

CLARENZA, the capital of a dutchy of the fame name in the Morea: it is a feaport town, fituated in the Mediterranean, twenty-fix miles fouth of Petras: eaft longitude 21° 40, north lat. 37° 40′.

CLARET, a name given by the French to fuch of their red wines as are not of a deep or high colour. See WINE.

CLARET, in antient pharmacy, was a kind of wine impregnated with aromatics, fometimes alfo called *hippocras*, or *vinum hippocraticum*, becaufe fuppofed to have been firft prefcribed by Hippocrates.

CLARET-WINE-APPLE, is fair, and yields plenty of a pleafant fharp juice, from whence it has its name, and not from the colour; it being a white apple, but makes a vinous liquor, which, if well ordered, excels moft other cyders, efpecially with a mixture of fweet apples.

CLARICHORD, or MANICHORD, a mufical inftrument in form of a fpinnet.

It has forty-nine or fifty ftops, and feventy ftrings, which bear on five bridges, the firft whereof is the higheft, the reft diminifhing in proportion. Some of the ftrings are in unifon, their number being greater than that of the ftops. There are feveral little mortoifes for paffing the jacks, armed with brafs-hooks, which ftop and raife the chords inftead of the feather ufed in virginals and fpinnets: but what diftinguifhes it moft is, that the chords are covered with pieces of cloth, which render the found fweeter, and deaden it fo, that it cannot be heard at any confiderable diftance: whence it comes to be particularly in ufe among the nuns, who learn to play, and are unwilling to difturb the filence of the dormitory.

CLARIFICATION, in chemiftry, the act of clearing and fining any fluid from all heterogeneous matter or feculencies.

This operation is performed three ways, by decantation, by defpumation, and by percolature or filtration.

The firft and moft fimple manner of clarification, is by decantation. It is the feparating fluids from their groffer parts, by means of the difference of their fpecific gravity, and is performed by only fuffering the fluid to ftand at reft, till every thing that will fubfide is collected at the bottom, and then pouring off from the fediment, by a gradual inclination of the veffel, all that part of the fluid which appears clear.

When fluids are to be freed from oils, or fuch matter as floats, an inftrument, called a tritorium, or feparating funnel, is to be ufed.

When oils, whofe vifcid confiftence is apt to detain impurities, and prevent their fubfiding, are to be clarified, it is proper, previoufly to decantation, to let them ftand fome time within a moderate digefting heat, by means of which, being

ing more liquified, they will frequently let fall a fediment, not otherwife feparable.

The fecond method, by defpumation, is performed by adding whites of eggs, firft well beat together, to the fluid to be clarified; and after a perfect commixture, making them coagulate by means of heat, and thereby carry to the furface all the heterogeneous matter, which is entangled by them in their coalefcence; the impurities, together with the concreted whites of the eggs, appearing as a fcum on the furface of the fluid, is to be taken off with a fpoon.

The third manner called filtration or percolation, is performed by paffing, without preffure, the fluid to be purified, through ftrainers of flannel, linen-cloth, or paper, which retaining the groffer parts, fuffer only the clearer fluid to be tranfmitted.

When flannel is ufed, it is made into a bag, in the form of a cone, and then called Hippocrates's fleeve, the bafis whereof being turned upwards, and expanded by means of three or four pofts, from which it is made to hang: it is then filled with the fluid, which drops from the apex into a veffel.

This is moftly ufed in cafe of decoctions extracts, and all gelatinous and faponaceous preparations, where extreme clearnefs is not neceffary. In folutions of falts, fpirits, and other limpid fluids where great tranfparency is expected, paper, or decantation fubfequent to it thro' flannel, are alone perfectly capable of anfwering the end. The manner of filtering thro' paper, is to put it into a tin or glafs funnel, to whofe form it is adapted in the manner of a lining. Linen-cloth is alfo ufed for this purpofe, tho' but feldom, as it purifies with far lefs effect than woolen, unlefs in the folutions of gums and gummy extracts. In diftilled waters, &c. which have a milky hue, or are turbid, clarification is generally effected with fine fugar, mixt with a fmall quantity of alum: fine and delicate wines are clarified with fifh-glue, and thicker wines with omelet, &c.

CLARIGATION, *clarigatio*, in roman antiquity, a ceremony which always preceded a formal declaration of war, performed in this manner: the chief of the heralds went to the territory of the enemy, where, after fome folemn, prefatory indication, he, with a loud voice, intimated that he declared war againft them for certain reafons fpecified, fuch as an injury done to the roman allies, or the like.

CLARIGATION was alfo ufed for apprehending a man, and holding him to bail, called by the Greeks *androlepfy*.

CLARINO, a trumpet: hence, *a doi clarini* fignifies, that a piece of mufic is to be played by two trumpets. See the articles TRUMPET, CORNET, &c.

CLARION, a kind of trumpet, whofe tube is narrower, and its tone acuter and fhriller than that of the common trumpet. It is faid that the clarion, now ufed among the Moors and Portuguefe, who borrowed it from the Moors, ferved antiently for a treble to feveral trumpets, which founded tenor and bafs.

CLARION, in heraldry, a bearing as reprefented, plate XLII. fig. 5. he bears ruby, three clarions topaz, being the arms of the earl of Bath, by the name of Granville: Guillim is of opinion, that thefe three clarions are a kind of old-fafhioned trumpets; but others fay, that they rather refemble the rudder of a fhip; others, a reft for a lance.

CLARO-OBSCURO, or CLAIR-OBSCURE, in painting, the art of diftributing to advantage the lights and fhadows of a piece, both with regard to the eafing of the eye, and the effect of the whole piece.

Thus, when a painter gives his figures a ftrong relievo, loofens them from the ground, and fets them free from each other, by the management of lights and fhadows, he is faid to underftand the claro-obfcuro, which makes one of the great divifions or branches of painting, the whole of a picture being refolvable into light and fhadow.

The doctrine of the claro obfcuro will come under the following rules. Light may be either confidered with regard to itfelf, or to its effects; the place wherein it is diffufed, or its ufe.

For the firft, light is either natural, or artificial. 1. Natural either comes immediately from the fun, which is brifk, and its colour various, according to the time of the day; or it is that of a clear air, thro' which the light is fpread, and whofe colour is a little bluifh; or a cloudy air, which is darker, yet reprefents the objects in their genuine colours, with more eafe to the eye. 2. Artificial light proceeds from fire or flame, and tinges the object with its own colour; but the light it projects is very narrow and confined.

For

For the second, the effects of light are either principal, as when the rays fall perpendicularly on the top of a body, without any interruption, or glancing, as when it slides along bodies; or secondary, which is for things at a distance.

3. For the place, it is either the open campaign, which makes objects appear with greater softness; or it is in an inclosed place, where the brightness is more vivid, its determination more hasty, and its extremes more abrupt.

4. For the use or application, the light of the sun is always supposed to be without, and over against the picture, that it may heighten the foremost figures, the luminaries themselves never appearing, in regard the light colours cannot express them. The chief light to meet on the chief group, and as much as possible, on the chief figure of the subject. The light to be pursued over the great parts, without being crossed or interrupted with little shadows. The full force of the principal light to be only in one part of the piece, taking care never to make two contrary lights. Not to be scrupulously confined to one universal light, but to suppose other accessary ones, as the opening of clouds, &c. to loosen some things, and produce other agreeable effects. Lastly, the light to be different, according to the quality of things whence it proceeds, and the nature of the subjects which receive it.

As for shadows, they are distinguished, 1. Into those formed on the bodies themselves by their proper relievos. 2. Those made by adjacent bodies. 3. Those that make the parts of any whole, and the different effects, according to the difference of places.

For the first, since the different effects of light only appear by shadows, their degrees must be well managed. The place which admits no light, and where the colours are lost, must be darker than any part that has relievo, and disposed in the front.

Deepenings, which admit not of any light, or reflex of light, must never meet on the relievo of any member of any great elevated part, but in the cavities, or joints, of bodies, the folds of draperies, &c. and to find occasion for introducing great shadows, to serve for the repose of the sight, and the loosening of things, instead of many shadows which have a pitiful effect.

For the second, the shadows made by bodies are either in plain and smooth places; or on the earth, wherein they are deeper than the bodies that occasion them, as receiving less reflex light, yet still diminish as they depart farther from their cause, or on the neighbouring bodies, where they are to follow the form of the same bodies, according to its magnitude, and its position in respect of the light.

For the third, in shadows that have parts, the painter must observe to take for a light in a shadowed place, the teint or lustre of the light part; and on the contrary, for the shadow in the lightened part, the teint or lustre in the shadow.

For the fourth, the effects of shadows are different, as the place is either wide or spacious, as in those coming immediately from the sun, which are very sensible, and their extremes pretty abrupt; from the serene air, which are fainter and more sweet; from the dark air, which appear more diffused and almost imperceptible; and from an artificial light, which makes the shadows deep, and their edges abrupt.

Claro-obscuro, or Chiaro-scuro, is also used to signify a design consisting only of two colours, most usually black and white, but sometimes black and yellow; or it is a design washed only with one colour, the shadows being of a dusky brown colour, and the lights heightened up with white.

The word is also applied to two prints of two colours, taken off at twice, whereof there are volumes in the cabinets of the curious in prints.

CLARY, in botany, the english name of the sclarea of Tournefort, comprehended by Linnæus among the species of salvia, or sage.

Wild Clary, the same with the horminum of Tournefort, likewise accounted by Linnæus a species of sage.

Clary-water, a spirit drawn from an infusion of the herb clary in spirit of wine, being a very pleasant and excellent cordial.

Etmuller will not have it give place even to castor in hysterical affections; and affirms, that there is no better remedy in colics: but it is not now prescribed to such purposes.

CLASMIUM, in natural history, constitutes a distinct genus of gypsums by itself, being more soft, dull, and opake than other kinds: it neither gives fire with steel, nor ferments with aqua fortis; but calcines readily in the fire, and affords

a very

a very valuable plafter of Paris. See the article GYPSUM.

CLASPERS, among gardeners, the fame with what botanifts call cirri. See CIRRI. Thefe clafpers are of a compounded nature between that of a root and a trunk. Their ufe is fometimes for fupport only, as in thofe of vines, briony, *&c.* whofe branches being long, flender, and fragile, would fall and break, through their own proper weight and that of their fruits, were they not fupported by thefe clafpers, which take hold of any thing by a natural circumvolution; thofe of briony have a retrograde motion about every third circle, in the form of a double clafp, fo that if they mifs one way, they may catch the other. Sometimes clafpers are for fupply, as in the trunk roots of ivy, which being a plant that mounts up very high, and of a more compact fubftance than that of vines, the fap would not be fufficiently fupplied to the upper fhoots, unlefs thefe affifted the mother root: but they alfo ferve for fupport.

CLASS, *claffis*, an appellation given to the moft general fubdivifions of any thing: thus, animal is fubdivided into the claffes quadrupeds, birds, fifhes, *&c.* which are again fubdivided into feriefes or orders; and thefe laft into genera.

CLASS is alfo ufed in fchools, in a fynonymous fenfe with form, for a number of boys all learning the fame thing.

The diftributing boys into claffes, contributes not only to raife an emulation among them, but is of great advantage to the mafter; who, by this means, can teach double the number it would otherwife be poffible for him to do.

CLASSIC, or CLASSICAL, an epithet chiefly applied to authors read in the claffes at fchools, and who are in great authority there.

This term feems to owe its origin to Tullius Servius, who, in order to make an eftimate of every perfon's eftate, divided the roman people into fix bands, which he called claffes. The eftate of the firft clafs was not to be under 200 l. and thefe by way of eminence were called *claffici*, claffics: hence authors of the firft rank came to be called claffics, all the reft being faid to be *infra claffem*: thus, Ariftotle is a claffic author in philofophy; Aquinas, in fchool divinity, *&c.*

By claffical learning may be underftood, fuch an intimacy with the beft greek and latin writers, as not only enables the reader to fee and admire the beauty of their feveral compofitions, but to imitate their manner of writing, to tranfcribe their fpirit and eloquence, and make their diction and their fentiment his own.

The principal claffics in the greek language are, Homeri opera, Platonis opera, Demofthenis & Æfchinis opera, Xenophon de Cyri inftitutione, Plutarchi opera, Ifocratis orationes & epiftolæ, Epicteti encheridion, Luciani opera, Sophoclis tragœdiæ, Euripidis opera, Dionyfius Longinus de fublimitate, Theocriti quæ extant, Anacreon, Pindari opera, Ariftophanis comœdiæ, *&c.*

Claffics in the latin tongue are, M. Tullii Ciceronis opera, T. Livii hiftoria, J. Cæfaris commentarii, C. Saluftii hiftoria, Virgilius, Horatius, Terentii comœdiæ, Plauti comœdiæ, Juvenalis fatyræ, Ovidii opera, Plinii epiftolæ, Plinii hiftoria naturalis, Valerii Paterculi quæ extant, *&c.*

CLATHRUS, in botany, a genus of roundifh mufhrooms; the fubftance of which is reticulated, or full of holes, fomewhat like the mefhes of a net, with continuous ramifications. See MUSHROOM.

CLATTE, in heraldry, an appellation given to irregular lines, not reducible to thofe commonly ufed. See LINE.

CLAVARIA, in botany, a genus of perpendicular mufhrooms, with an uniform furface: this genus, by different authors, has been called *fungoides*, *corallo-fungus*, and *coralloides*. See MUSHROOM.

CLAUDENS PALPEBRAS, in anatomy, a mufcle otherwife called orbicularis. See the article ORBICULARIS.

CLAVES INSULÆ, a term ufed in the ifle of Man; where all weighty and ambiguous caufes are referred to a jury of twelve, who are called claves infulæ, the keys of the ifland.

CLAVICLES, *claviculæ*, in anatomy, are two bones fituated tranfverfely and a little obliquely oppofite to each other, at the fuperior and anterior part of the thorax, between the fcapula and fternum. Their figure is fomewhat like that of the letter S. their fubftance is fpungy and brittle; their body is a fixt point for the deltoide, maftoide, pectoral, and fome other mufcles; they are protuberant for the fubclavian mufcle; and of their two extremities, the rounder is articulated with the fternum and with the firft rib, and the flatter is articulated with the acromion.

The ufes of the clavicles are, 1. To keep

keep the arms from falling too forward upon the breast, and to facilitate several of the motions of the arm, 2. To serve for the place of origin for several muscles. 3. To defend the great subclavian vessels which run under them.

Fracture of the CLAVICLES. As it is no difficult matter to know when the clavicle is fractured, so it is not very hard to reduce it, especially when the fracture is transverse; the operation may be performed in the following manner: an assistant is to pull the arms of the patient gradually backwards, by which means the clavicles will be properly extended. In the mean time the surgeon is to replace the bone, and while the assistant holds it in that position, he is to apply a narrow and thick compress, so as to fill up the cavities above and below the clavicle. Upon this he is to lay two more narrow compresses made in the form of an X; and over all these apply a piece of pasteboard, accommodated to the shoulder and neck, and first steeped in spirit of wine, or oxycrate. Then he must place a ball under the arm, or bind it with a thick roller, to prevent the humerus from subsiding; and lastly, the whole is to be bound up, and the arm suspended in a sling.

Luxation of the CLAVICLES. They may be dislocated either from the top of the sternum, or processus acromion of the scapula, by some external violence, as a fall, blow, the lifting some great weight, or the like. This accident, however, seldom happens, by reason of their strong ligaments. For the cure, the surgeon will find the principal business to consist in a proper extension and reduction of what has been displaced, to be performed in the same manner as in fractures of the same bones: but all possible care must be taken to perform the bandage with accuracy, because it is the chief remedy; and such as are negligent in this point, seldom perform a cure without leaving some stiffness or weakness afterwards.

CLAVIS properly signifies a key, and is sometimes used in english to denote an explanation of some obscure passages in any book or writing.

CLAUSE, in grammer, denotes a member of a period, or sentence.

CLAUSE signifies also an article, or particular stipulation, in a contract, a charge or condition in a testament, *&c.*

Thus we say, a derogatory clause, a penal clause, saving clause, codicillary clause, *&c.*

CLAUSENBURG, a large city of Transilvania, situated on the river Samos, about fifty-five miles north-west of Hermanstat: east longitude 20° 50′, and north latitude 47° 10′.

CLAVUS, in antiquity, an ornament upon the robes of the roman senators and knights, which was more or less broad, according to the dignity of the person: hence the distinction of tunica angusticlavia and laticlavia.

Critics are much divided about the clavi: some fancying them to have been a kind of flowers interwoven in the cloth; others will have them to be the buttons or clasps by which the tunic was held together; a third sort contend that the latus clavus was nothing else but a tunic bordered with purple; Scaliger thinks that the clavi did not properly belong to the vest, but hung down from the neck like chains and ornaments of that nature; but the most general opinion makes them to have been studs, something like heads of nails, worked into the tunic. Rubenius, rejecting all these opinions, contends that the clavi were no more than purple lines or streaks coming along the middle of the garments, which were afterwards improved to golden and embroidered lines of the same nature: and Mr. Dacier maintains that they were purple galoons with which they bordered the fore-part of the tunic, on both sides, in the place where it came together.

It has been a received opinion, that the angusticlave distinguished the knights from the common people, in the same manner as the laticlave did the senators from those of the equestrian rank: but Rubenius avers that there was no manner of distinction between the tunics of the knights and those of the commons. As to the persons who wore the laticlave, they were either sons of those senators who were patricians, in which case they wore it in their childhood, with the prætexta; or the sons of senators who were not patricians, these did not put on the laticlave till they applied themselves to the service of the commonwealth, and to bearing offices.

CLAVUS, in medicine and surgery, is used in several significations: 1. Clavus hystericus, is a shooting pain in the head between the pericranium and cranium, which affects such as have the green-sickness,

ness. 2. Clavus oculorum, according to Celsus, is a callous tubercle on the white of the eye, taking its denomination from its figure. 3. Clavus imports indurated tubercles of the uterus. 4. Clavus imports a chirurgical instrument of gold, mentioned by Amatus Lusitanus, designed to be introduced into an exulcerated palate, for the better articulation of the voice. 5. Clavus is a callus or corn on the foot: this arises from a too great compression of the cutis, which by this means hardens and forms itself into a knot. The cure is by softening them, and then pulling them out. The pulp of a lemon laid to a corn, and bound on all night, often softens it so by the morning that it may easily be taken off.

CLAW, among zoologists, denotes the sharp-pointed nails, with which the feet of certain quadrupeds and birds are furnished.

Crab's CLAWS, in pharmacy. See the article CRAB'S CLAWS.

CLAY, *argilla*, in natural history, a genus of earths, the characters of which are these: they are firmly coherent, weighty, and compact, stiff, viscid, and ductile to a great degree, while moist; smooth to the touch, not easily breaking between the fingers, nor readily diffusible in water, and when mixed, not readily subsiding from it.

Of this genus authors enumerate a great many species, some white, some brown, grey, blue, yellow, green, red, black, &c. many of which having been distinguished by particular names, will be mentioned, and their peculiar qualities explained, as they occur.

Besides the use of clay for making potter's ware, it is a considerable improver of light and sandy grounds, which, unless they be clayed, will bear nothing but rye, with whatever other composts they be manured; but once clayed, they will produce oats, barley, pease, &c. In Yorkshire, they lay an hundred load upon an acre of ground, which will keep the soil in heart upwards of forty years: indeed the first year after being clayed, it bears rank, ill-coloured, and broad-grained barley; but afterwards a plump round corn, like wheat.

CLAY-LANDS, those abounding with clay, whether black, blue, yellow, white, &c. of which the black and the yellow are the best for corn.

All clay-soils are apt to chill the plants growing on them in moist seasons, as they retain too much water: in dry seasons, on the contrary, they turn hard and choke the plants. Their natural produce is weeds, goose-grass, large daisies, thistles, docks, poppies, &c. Some clay-soils will bear clover and rye-grass; and, if well manured, will produce the best grain: they hold manure the best of all lands, and the most proper for them are horse-dung, pigeon's-dung, some kinds of marle, folding of sheep, malt-dust, ashes, chalk, lime, soot, &c.

CLAYS, in fortification. See HURDLES.

CLAYTONIA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of five ovato-oblong, erect, large petals; the fruit is a roundish unilocular capsule, containing several roundish seeds.

CLEAR, in building, a term used by workmen to signify the inside work of the house.

CLEAR-WALK, a term among cock-fighters, to signify the place the fighting-cock is in, and no other.

Cape-CLEAR, a promontory in a little island on the south-west coast of Ireland.

CLEARING *of liquors*. See the article CLARIFICATION.

CLEAT, on ship-board, a piece of wood fixed to the yard-arm, to keep the ropes from slipping off.

CLEBURY, a market-town of Shropshire, about twenty-five miles south east of Shrewsbury: west longitude 2° 30′, and north latitude 52° 27′.

CLECHE, in heraldry, a kind of cross, charged with another cross of the same figure, but of the colour of the field. See plate XLII. fig. 6.

CLEDONISM, in antiquity, a kind of divination, concerning the nature of which authors are not agreed, some making it the same with ornithomancy, and others a peculiar kind by itself, drawn from words occasionally uttered.

CLEF, or CLIFF, in music, a mark set at the beginning of the lines of a song, which shews the tone or key in which the piece is to begin; or it is a letter marked on any line, which explains the rest. It is called clef, or key, because hereby we know the names of all the other lines and consequently the quantity of every degree or interval: but because every note in the octave is also called a key, this letter marked, is, for distinction sake, denominated the signed clef; and by this key is meant the principal note of a song, in which the melody closes.

There are three signed clefs, *c*, *f*, *g*; the

the cleff of the higheſt part in a ſong, called treble, or alt, is *g* on the ſecond, ſometimes on the firſt, and ſometimes on the third line, counting upwards. The clef of the baſs, or loweſt part, is *f*, generally on the fourth line upwards, and often on the ſecond, third, and fifth. For all the other mean parts, the clef is *c*, ſometimes on one, and ſometimes on another line: indeed ſome that are really mean parts, are frequently ſet with the clef *g*, ſee TREBLE, TENOR, BASS.

It muſt be obſerved, however, that the ordinary ſignatures of the clefs bear little reſemblance to thoſe letters: for their figures, ſee CHARACTER *in muſic*.

The clefs are always taken fifth to one another, that is, the clef *f* is the loweſt, *c* a fifth above it, and *g* a fifth above *c*.

When the clef is changed, it is with deſign to make the ſyſtem comprehend as many of the notes of the ſong as poſſible, and ſo to have the fewer above and below it. If then there be many lines above the clef, and few below it, this purpoſe is anſwered by placing the clef in the firſt or ſecond line; if there be many notes below the clef, it is placed higher in the ſyſtem. In effect, according to the relation of the other notes to the clef-note, the particular ſyſtem is taken differently in the ſcale, the clef-line making one in all the varieties. See SCALE.

But ſtill, in whatever line of the particular ſyſtem the clef is found, it muſt be underſtood to belong to the ſame in the general ſyſtem, and to be the ſame individual note or ſound in the ſcale. By this conſtant relation of clef, we learn how to compare ſeveral particular ſyſtems of the ſeveral parts, and know how they communicate in the ſcale, which lines are uniſon, which are not; for it is not to be ſuppoſed that each part has certain particular bounds, within which another muſt never come. Some notes of the treble may come lower than ſome of the mean parts, or even of the baſs. To put together, therefore, into one ſyſtem, all the parts of a compoſition written ſeparately, the notes of each part muſt be placed at the ſame diſtance above and below the proper clef, as they ſtand in the ſeparate ſyſtem; and becauſe all the notes that are conſonant muſt ſtand perpendicularly over each other, that the notes belonging to each part may be diſtinctly known, they may be made with ſuch differences as ſhall not confound or alter their ſignification as to time, but only ſhew that they belong to this or that part. Thus we ſhall ſee how the parts paſs through one another, and which in every note is higheſt, loweſt, or uniſon.

It muſt be obſerved, that for the performance of one ſingle piece, the clefs only ſerve for explaining the intervals in the lines and ſpaces; ſo that the firſt note may be taken high or low, as we pleaſe: for as the proper uſe of the ſcale is not to limit the abſolute degree of tunes, ſo the proper uſe of the ſigned clef is not to limit the pitch at which the firſt note of any piece is to be taken, but to terminate the tune of the firſt with relation to the firſt, and conſidering all the parts together, to determine the relation of the ſeveral notes, by the relation of their clefs in the ſcale. And in effect, in performing any ſingle part, the clef may be taken in any octave, provided we do not go too high or too low for finding the reſt of the notes of a ſong. But in a concert of ſeveral parts, all the clefs muſt be taken not only in the relation but alſo in the places of the ſyſtem above mentioned, that every part may be comprehended in it.

Signature of the clefs is, according to Mr. Malcolm, the marking the ſyſtems by the flats and ſharps. See the articles FLAT, SHARP, *&c.*

CLEFTS, or CRACKS *in the heels*, a diſeaſe incident to horſes, that comes either by over-hard labour, which occaſions ſurfeits, or by giving them unwholeſome meat, or by waſhing them when hot. For the cure, ſhave away the hair, and apply the oil of hempſeed, or linſeed, and be ſure to keep them clean.

CLEMATIS, VIRGIN'S BOWER, in botany, a genus of the polyandria-polygynia claſs of plants, the flower of which conſiſts of four or five oblong lax petals: there is no pericarpium, but a ſmall receptacle contains ſeveral roundiſh compreſſed ſeeds, crowned with a ſlender filament ſomewhat like a feather. See plate XLII. fig. 7.

CLEMENTINE, among the auguſtine monks, a perſon, who, after having been nine years a ſuperior, becomes a private monk, in conſequence of a bull of pope Clement.

CLEMENTINES, in the canon law, the conſtitutions of pope Clement V.

CLENCH NAILS, in ſmithery. See the article NAIL.

CLEOME, in botany, a genus of plants belonging to the tetradynamia-ſiliquoſa claſs;

class, the flower of which consists of four patent petals inclining upwards; the fruit is a cylindrical pod, with two valves and two cells, containing several roundish seeds.

CLEPSYDRA, a water-clock, or instrument to measure time by the fall of a certain quantity of water.

The construction of a CLEPSYDRA. To divide any cylindrical vessel into parts, to be emptied in each division of time, the time wherein the whole, and that wherein any part is to be evacuated, being given.

Suppose a cylindrical vessel, whose charge of water flows out in twelve hours, were required to be divided into parts, to be evacuated each hour: 1. As the part of time 1 is to the whole time 12, so is the same time 12 to a fourth proportional 144. 2. Divide the altitude of the vessel into 144 equal parts: here the last will fall to the last hour; the three next above to the last part but one; the five next to the tenth hour; lastly, the twenty-three last to the first hour. For since the times increase in the series of the natural numbers 1, 2, 3, 4, 5, &c. and the altitudes, if the numeration be in a retrograde order from the twelfth hour, increase in the series of the unequal numbers 1, 3, 5, 7, 9, &c. the altitudes computed from the twelfth hour will be as the squares of the times 1, 4, 9, 16, 25, &c. Therefore the squares of the whole time, 144, comprehends all the parts of the altitude of the vessel to be evacuated. But a third proportional to 1 and 12 is the square of 12, and consequently it is the number of equal parts in which the altitude is to be divided, to be distributed according to the series of the unequal numbers, through the equal interval of hours.

There were many kinds of clepsydræ among the antients; but they all had this in common, that the water ran generally through a narrow passage, from one vessel to another, and in the lower was a piece of cork or light wood, which, as the vessel filled, rose up by degrees, and shewed the hour. The reader may see a description of a very curious clepsydra given by Mr. Hamilton, in n° 479. of the Philosophical Transactions.

CLEPSYDRA is also used to denote a perforated chemical vessel, and an instrument mentioned by Paracelsus, contrived to convey suffumigations to the uterus.

CLERGY, *clerus*, κλῆρος, a general name given to the body of ecclesiastics of the christian church, in contradistinction to the laity.

The distinction of christians into clergy and laity, was derived from the jewish church, and adopted into the christian by the apostles themselves: whenever any number of converts were made, as soon as they were capable of being formed into a congregation or church, a bishop or presbyter, with a deacon, were ordained to minister to them. Of the bishops, priests, and deacons the clergy originally consisted; but in the third century, many inferior orders were appointed, as subservient to the office of deacon, such as subdeacons, acolythists, readers, &c.

The privileges and immunities which the clergy of the primitive christian church enjoyed, deserve our notice. In the first place, when they travelled upon necessary occasions, they were to be entertained by their brethren of the clergy, in all places, out of the public revenues of the church. When any bishop, or presbyter, came to a foreign church, they were to be complimented with the honorary privilege of performing divine offices, and consecrating the eucharist in the church. The great care the clergy had of the characters and reputations of those of their order, appears from hence, that in all accusations, especially against bishops, they required the testimony of two or three witnesses of good character: nor was any heretic admitted as an evidence, against a clergyman. With regard to the respect paid to the clergy by the civil government it consisted chiefly in exempting them from some kind of obligations to which others were liable, and granting them certain privileges and immunities which others did not enjoy.

By the ecclesiastical laws, no clergyman was allowed to relinquish his station without just grounds and leave: but in some cases resignation was allowed of, as in old-age, sickness, or other infirmities. The laws were no less severe against all wandering clergymen, or such, as having deserted their own church, would fix in no other. There were laws which obliged the clergy to constant attendance upon their duty: others inhibited pluralities, or the officiating in two parochial churches; or following any secular employments. Another sort of laws respected the outward behaviour of the clergy; such inhibited them from corresponding or conversing too freely with Jews and gentile philosophers; and there were

canons which restrained them from eating and drinking in taverns, or being present at the public theatres. It was also enacted, that no bishops, presbyters, or deacons should visit widows and virgins alone, but in the company of some other of the clergy, or some grave christians. As to the fashion of their apparel, it does not appear that, for several ages, there were any distinctions observed therein between them and the laity.

The clergy of the church of Rome are distinguished into regular and secular: the regular clergy consists of those monks or religious, who have taken upon them holy orders of the priesthood, in their respective monasteries. The secular clergy are those which are not of any religious order, and have the care and direction of parishes. The protestant clergy are all seculars.

The romish church forbids the clergy of her communion to marry; and pretends that a vow of perpetual celibacy, or abstinence from conjugal society, was required of the clergy as a condition of their ordination, even from the apostolical ages.

The privileges of the english clergy, by the antient statutes, are very considerable: their goods are to pay no toll in fairs or markets; they are exempt from all offices but their own; from the king's carriages, posts, *&c.* from appearing at sheriff's tourns, or frank-pledges; and are not to be fined or amerced according to their spiritual, but their temporal means. A clergyman acknowledging a statute, his body is not to be imprisoned. If he be convicted of a crime, for which the benefit of clergy is allowed, he shall not be burnt in the hand; and he shall have the benefit of the clergy *in infinitum*, which no layman can have more than once.

The clergy, by common law, are not to be burdened in the general charges of the laity; nor to be troubled nor incumbered, unless expresly named and charged by the statute; for general words do not affect them: thus, if a hundred be sued for a robbery, the minister shall not contribute: neither shall they be assessed to the highway, to the watch, *&c.*

The revenues of the clergy were antiently more considerable than at present. Ethelwolph, in 855, gave them a tythe of all goods, and a tenth of all the lands in England, free from all secular services, taxes, *&c.* The charter whereby this was granted them, was confirmed by several of his successors; and William the conqueror, finding the bishoprics so rich, created them into baronies, each barony containing thirteen knight's fees at least: but since the reformation the bishoprics are much impoverished. The revenues of the inferior clergy, in the general, are small, a third part of the best benefices being antiently, by the pope's grant, appropriated to monasteries, upon the dissolution whereof they became lay-fees. Indeed an addition was made, 2 Annæ, the whole revenues of first-fruits and tenths being then granted to raise a fund for the augmentation of the maintenance of the poor clergy; pursuant to which, a corporation was formed, to whom the said revenues were conveyed in trust, *&c.*

Benefit of CLERGY is an antient privilege, whereby one in orders claimed to be delivered to his ordinary, to purge himself of felony: this purgation was to be by his own oath, affirming his innocency, and the oath of twelve compurgators, as to their belief of it, before a jury of twelve clerks: if the clerk failed in his purgation, he was deprived of his character, whereby he became a mere layman; or he was to be kept in prison till a pardon was obtained: but if he purged himself, he was set at liberty.

This was formerly admitted, even in cases of murder; but the antient course of the law is much altered upon this head. By the statutes of 18 Eliz. cap. vii. clerks are no more committed to their ordinary to be purged; but every man to whom the benefit of clergy is granted, though not in orders, is put to read at the bar, after he is found guilty, and convicted of such felony, and so burnt on the hand, and set free for the first time, if the ordinary or deputy standing by, do say, *legit ut clericus*, otherwise he shall suffer death.

It appears by our law books, that laymen that could read, had the privilege of the clergy ever since 25 Edw. III. which allowance never was condemned in parliament, but rather approved of.

Benefit of clergy is taken in many cases.

CLERICAL, in general, denotes something belonging to a clerk. See the article CLERK.

CLERICO ADMITTENDO. See the article ADMITTENDO.

CLERICO CAPTO *per statutum mercatorum*, a writ for the delivery of a clerk out of prison,

prifon, who is in cuftody on the breach of a ftatute-merchant.

CLERICO CONVICTO *commiffo gaolæ in defectu ordinarii deliberando*, a writ that formerly lay for delivering to his ordinary, a clerk who had been convicted of felony, if the ordinary did not challenge him, according to the privileges of clerks in thofe days.

CLERICO *infra facros ordines conftituto non eligendo in officium*, is a writ to releafe one in holy orders, from an office impofed upon him.

CLERK, a word originally ufed to denote a learned man, or man of letters: whence the term became appropriated to churchmen, who were from thence called clerks or clergymen; the nobility and gentry being ufually bred up to the exercife of arms, and none left but the ecclefiaftics to cultivate the fciences.

Acephalous CLERKS, a name given to thofe, in the VIth century, who feparated from their bifhops, and refufed to live in community with them; in contradiftinction to canonic clerks, who lived with their bifhop, according to the canons.

CLERK is alfo applied to fuch as by their courfe of life, exercife their pens in any court or office, of which there are various kinds: thus,

CLERK *of the acts*, an officer in the navy-office appointed for recording all orders, contracts, bills, warrants, *&c.* tranfacted by the lords of the admiralty and commiffioners of the navy.

CLERK *of the affidavits*, the officer, in the court of chancery, who files all affidavits made ufe of in court.

CLERK *of the affife*, the perfon who writes all things judicially done by the juftices of affife, in their circuits.

CLERK *of the bails*, an officer in the court of king's bench, whofe bufinefs it is to file all bail-pieces taken in that court, where he always attends.

CLERK *of the check*, an officer belonging to the king's court, fo called becaufe he has the check and controulment of the yeomen of the guard, and all other ordinary yeomen that belong to the king, queen, or prince. He likewife, by himfelf or deputy, fets the watch in the court. There is alfo an officer in the navy of the fame name, belonging to the king's yards.

CLERK *of the crown*, an officer, in the king's bench, who frames, reads, and records all indictments againft offenders, there arraigned or indicted of any public crime. He is likewife termed clerk of the crown-office, in which capacity he exhibits informations by order of the court for divers offences.

CLERK *of the crown*, in chancery, an officer whofe bufinefs it is conftantly to attend the lord-chancellor, in perfon or by deputy, to write and prepare for the great-feal, fpecial matters of ftate by commiffion, both ordinary and extraordinary, *viz.* commiffions of lieutenancy, of juftices of affife, oyer and terminer, gaol-delivery, and of the peace; all general pardons, granted either at the king's coronation, or in parliament: the writs of parliament, with the names of the knights, citizens, and burgeffes, are alfo returned into his office. He alfo makes out fpecial pardons, and writs of execution on bonds of ftatute-ftaple forfeited.

CLERK *of the declarations*, he that files all declarations after they are engroffed, in caufes depending in the court of king's bench.

CLERK *of the deliveries*, an officer of the Tower, whofe function is to take indentures for all ftores and ammunition iffued from thence.

CLERK *of the errors*, in the court of common pleas, an officer who tranfcribes and certifies into the king's bench, the tenor of the record of the action on which the writ of error, made out by the curfitor, is brought there to be determined. In the king's bench, the clerk of the errors tranfcribes and certifies the records of caufes, by bill, in that court, into the exchequer. And the bufinefs of the clerk of the errors in the exchequer, is to tranfcribe the records certified thither out of the king's bench, and to prepare them for judgment in the exchequer-chamber.

CLERK *of the effoins*, in the court of common pleas, keeps the effoin roll, or enters effoins: he alfo provides parchment, cuts it into rolls, marks the number on them, delivers out all the rolls to every officer, and receives them again when written. See the article ESSOIN.

CLERK *of the eftreats*, an officer in the exchequer, who every term receives the eftreats out of the lord-treafurer's remembrancer's office, and writes them out, to be levied for the crown.

CLERKS *of the green-cloth*. See the article GREEN CLOTH.

CLERK *of the hamper*, or *hanaper*, an officer in chancery, whofe bufinefs is to receive all money due to the king for the feals of charters, letters patent, commiffions, and writs; alfo the fees due to the

officers for enrolling and examining them.

Clerk *of the enrollments*, an officer of the court of common pleas, that inrolls and exemplifies all fines and recoveries, and returns writs of entry.

Clerk *of the juries*, an officer of the common pleas, who makes out the writs called habeas corpus and diftringas, for juries to appear either in that court, or at the affifes, after the pannels are returned upon the venire facias. He likewife enters into the rolls the awarding thefe writs, and makes all the continuances till verdict is given.

Clerk *comptroller of the king's houfhold*, an officer of the king's court, authorifed to allow or difallow the charges of purfuivants, meffengers of the green-cloth, *&c.* to infpect and controul all defects of any of the inferior officers; and to fit in the counting-houfe with the lord-fteward and other officers of the houfhold, for regulating fuch matters.

Clerk *of the king's filver*, an officer of the common pleas, to whom every fine is brought, after it has paffed the office of the cuftos brevium; and who enters the effect of writs of covenant, into a book kept for that purpofe, according to which all the fines of that term are recorded in the rolls of the court.

Clerk *of the king's great wardrobe*, an officer who keeps an account of all things belonging to the wardrobe.

Clerk *of the market*, an officer of the king's houfe, to whom is given the charge of the king's meafures and weights, the ftandards of thofe that ought to be ufed all over England.

Clerk *of the nichils*, or *nihils*, an officer of the exchequer, who makes a roll of all fuch fums as are nichilled by the fheriffs upon their eftreats of green wax, and delivers them in to the remembrancer of the treafury, to have execution done upon them for the king. See the article Nihils.

Clerk *of the ordnance*, an officer that regifters all orders concerning the king's ordnance in the tower.

Clerk *of the outlawries*, an officer of the common pleas, and deputy to the attorney general, for making out all writs of capias utlagatum, after outlawry, to which there muft be the king's attorney's name.

Clerk *of the paper-office*, an officer belonging to the king's bench, whofe bufinefs is to make up the paper-books of fpecial pleadings in that court.

Clerk *of the parliament-rolls*, an officer in the houfe of lords, and likewife in the houfe of commons, who records all tranfactions in parliament, and engroffes them fairly in parchment-rolls.

Clerk *of the peace*, an officer belonging to the feffions of the peace, whofe bufinefs is to read indictments, inrol the proceedings, and draw the procefs: he likewife certifies into the king's bench, tranfcripts of indictments, outlawries, attainders and convictions had before the juftices of peace, within the time limited by ftatute, under a certain penalty. This office is in the gift of the cuftos rotulorum, and may be executed by deputy.

Clerk *of the pells*, an officer that belongs to the exchequer, whofe bufinefs is to enter every teller's bill into a parchment roll called pellis receptorum, and to make another roll of payments, called pellis exituum.

Clerk *of the petty bag*, an officer of the court of chancery, whereof there are three, the mafter of the rolls being the chief: their bufinefs is to record the return of all inquifitions out of every fhire, to make out patents of cuftomers, gaugers, comptrollers, *&c.* liberates upon extents of ftatutes ftaple, conge d'elires for bifhops, fummons of the nobility, clergy, and burgeffes to parliament, and commiffions directed to knights, and others, of every fhire, for affeffing fubfidies and taxes.

Clerk *of the pipe*, an officer of the exchequer, who having the accounts of all debts due to the king, delivered out of the remembrancer's office, charges them in a great roll, folded up like a pipe. He writes out warrants to fheriffs, to levy the faid debts on the goods and chattels of the debtors; and if they have no goods, then he draws them down to the treafurer's remembrancer, to write eftreats againft their lands.

Clerk *of the pleas*, an officer of the exchequer, in whofe office all the officers of the court, having fpecial privilege, ought to fue, or be fued, in any action. In this office alfo actions at law may be profecuted by other perfons, but the plaintiff ought to be tenant or debtor to the king, or fome way accountable to him. The under-clerks are attorneys in all fuits.

Clerks *of the privy-feal*, four officers that attend the lord-privy-feal, for writing and making out all things that are fent by warrant from the fignet to the privy-feal, and to be paffed the great-feal; and likewife

likewife to make out privy-feals, upon fpecial occafions of his majefty's affairs, as for loan of money, or the like.

CLERK *of the rolls*, an officer of the chancery, whofe bufinefs is to make fearches after, and copies of deeds, offices, *&c.*

CLERK *of the rules*, an officer of the court of king's bench, who draws up and enters all the rules and orders made in court, and gives rules of courfe in divers writs.

CLERK *of the fewers*, an officer who writes and records the proceedings of the commiffioners of the fewers.

CLERK *of the fignet*, an officer continually attending upon his majefty's principal fecretary, who has the cuftody of the privy-fignet, as well for fealing the king's private letters, as thofe grants which pafs the king's hand by bill figned. There are four of thefe officers, who have their diet at the fecretary's table.

Six CLERKS, officers in chancery, next in degree below the twelve mafters, whofe bufinefs is to inrol commiffions, pardons, patents, warrants, *&c.* which pafs the great feal: they were antiently clerici, and forfeited their places if they married. They are alfo attorneys for parties in fuits depending in the court of chancery.

CLERK *of the fuperfedeas*, an officer of the common pleas, who makes out writs of fuperfedeas, forbidding the fheriff to return the exigent upon a defendant's appearing thereto on an outlawry.

CLERK *of the treafury*, an officer belonging to the court of common pleas, who has the charge of keeping the records of the court, makes out all records of nifi prius, and likewife all exemplifications of records being in the treafury. He has the fees due for all fearches; and has under him an under-keeper, who always keeps one key of the treafury-door.

CLERK *of the warrants*, an officer of the common pleas, whofe bufinefs is to enter all warrants of attorney for plaintiffs and defendants in fuit; and to inrol deeds of bargain and fale, that are acknowledged in court, or before a judge. His office is likewife to eftreat into the exchequer all iffues, fines, eftreats, and amercements, which grow due to the crown in that court.

Riding CLERK. See RIDING.

CLERMONT, a city and bifhop's fee of France, in the territory of Auvergne, and province of Lyonois, about feventy-five miles weft of Lyons: eaft longitude 3° 30′, and north latitude 45° 42′.

CLERODENDRUM, in botany, a genus of the didynamia-angiofpermia clafs of plants, the flower of which confifts of only one petal, with a flender and long tube; its upper lip is concave, erect, obtufe, and divided into two fegments; and the under lip, being of the length of the upper, is divided into three reflex and obtufe fegments: the fruit is a roundifh drupe; and the feed is roundifh and fingle.

CLEROMANCY, κληρομαντεια, a fort of divination performed by throwing lots, which were generally black and white beans, little clods of earth, or pebbles; alfo dice, or fuch like things, diftinguifhed by certain characters. They caft the lots into a veffel, and having made fupplication to the gods to direct them, drew them out, and, according to the characters, conjectured what fhould happen to them.

CLERUS, a CLERK. See the article CLERK.

CLETHRA, in botany, a genus of the decandria-monogynia clafs of plants, the flower of which confifts of five roundifh, oblong, recto-patent petals, twice the length of the cup, and broadeft towards their extremities: the fruit is a roundifh capfule inclofed in a cup, and formed of three valves, containing three cells: the feeds are numerous and angular.

CLEVES, or CLEF, the capital of the dutchy of Cleve, in the circle of Weftphalia, in Germany, fituated near the weftern fhore of the river Rhine: eaft long. 5° 36′, and north lat. 51° 40′. It is fubject to the king of Pruffia.

CLEVELAND, a diftrict in the north-riding of Yorkfhire, from which the noble family of Fitzroy takes the title of duke.

CLEW *of a fail*, in naval affairs, is the lower corner of it, to which are made faft the fheets and tacks: a fquare fail hath no clew.

A fail with a great clew, is one with a great goaring or floping down. To fpread a clew, is faid of a fhip that has a very long yard, and therefore has much canvas in her fail.

CLEW-GARNET, a rope made faft to the clew of the fail, and running from thence to the block, feized to the middle of the main and fore-yard, which, in furling, hales up the clew of the fail clofe to the middle of the yard.

CLEW-LINE, the fame to the top-fails, top-gallant-fails, and fprit-fails, that the clew-

clew-garnet is to the main-fail and fore-fail, and has the fame ufe.

In a guft of wind, when the top-fail is to be taken in, it is ufual firft to hale home the lee clew of the fail, whereby it becomes eafier to take in the fail.

CLIENT, *cliens*, among the Romans, a citizen who put himfelf under the protection of fome great man, who, in refpect of that relation, was called patron.

This patron affifted his client with his protection, intereft, and goods; and the client gave his vote for his patron, when he fought any office for himfelf or his friends. Clients owed refpect to their patrons, as thefe owed them their protection.

The right of patronage was appointed by Romulus, to unite the rich and poor together in fuch a manner, as that one might live without contempt, and the other without envy; but the condition of a client, in courfe of time, became little elfe but a moderate flavery.

CLIENT is now ufed for a party in a law-fuit, who has turned over his caufe into the hands of a counfellor or folicitor.

CLIFF, or CLEF, in mufic. See CLEF.

CLIFFORTIA, in botany, a genus of the dioecia-icofandria clafs of plants: it has no corolla; the calyx of the female flower is compofed of three leaves, and is fituated upon the germen; the ftyles are two, filiform, long, and plumofe; the fruit is an oblong roundifh capfule, containing two cells, in each of which there is a fingle feed, of a round or cylindrical fhape.

CLIMACTERIC, *annus climactericus*, among phyficians and natural hiftorians, a critical year in a perfon's life, in which he is fuppofed to ftand in great danger of death.

According to fome, every feventh year is a climacteric; but others allow only thofe years produced by multiplying 7, by the odd number 3, 5, 7, and 9, to be climacterical. Thefe years, they fay, bring with them fome remarkable change with refpect to health, life, or fortune; the grand climacteric is the fixty-third year; but fome, making two, add to this the eighty-firft: the other remarkable climacterics are the feventh, twenty-firft, thirty-fifth, forty-ninth, and fifty-fixth. The credit of climacteric years can only be fupported by the doctrine of numbers introduced by Pythagoras; though many eminent men, both among the antients and moderns, appear to have had great faith in it.

CLIMATE, in geography, a fpace upon the furface of the terreftrial globe, contained between two parallels, and fo far diftant from each other, that the longeft day in one differs half an hour from the longeft day in the other parallel.

The difference of climates arifes from the different inclination or obliquity of the fphere: the antients took the parallel wherein the length of the longeft day is twelve hours and three quarters for the beginning of the firft climate: as to thofe parts that are nearer to the equator than that parallel, they were not accounted to be in any climate, either becaufe they may, in a loofe and general fenfe, be confidered as being in a right fphere, though, ftrictly fpeaking, only the parts under the equator are fo; or becaufe they were thought to be uninhabited by reafon of the heat, and were befides unknown. The antients, confidering the diverfity there is in the rifing and fetting of the heavenly bodies, efpecially the fun, and, in confequence thereof, the difference in the length of the days and nights in different places, divided as much of the earth as was known to them, into climates; and inftead of the method now in ufe, of fetting down the latitude of places in degrees, they contented themfelves with faying in what climate the place under confideration was fituated. According to them, therefore, what they judged the habitable part of the northern hemifphere was divided into feven climates, to which the like number of fouthern ones correfponded.

A parallel is faid to pafs through the middle of a climate, when the longeft day in that parallel differs a quarter of an hour from the longeft day in either of the extreme parallels that bound the climate: this parallel does not divide the climate into two equal parts, but the part neareft to the equator is larger than the other, becaufe the farther we go from the equator, the lefs increafe of latitude will be fufficient to increafe the length of the longeft day a quarter of an hour.

A Table

A Table of CLIMATES according to Ricciolus, wherein the effects of refraction are allowed for.

Climate.	Parallel.	Latitude.	Longest day.	Climate.	Parallel.	Latitude.	Longest day.	Climate.	Parallel.	Latitude.	N. lat. Continual D.	N. lat. Continual N.	S. lat. Continual D.	S. lat. Continual N.
	1	2° 59′	12h 15′		15	46° 33′	15h 45′		29	66° 2′	15	12	14	13
I.	2 m.	7 18	12 30	VIII.	16 m.	48 15	16 0	XV.	30 m.	66 53	31	27	30	28
	3	11 29	12 45		17	51 14	16 30		31	67 43	45	41	44	43
II.	4 m.	15 36	13 0	IX.	18 m.	53 46	17 0	XVI.	32 m.	69 30	62	58	60	59
	5	19 33	13 15		19	55 55	17 30		33	71 8	77	71	74	73
III.	6 m.	23 8	13 30	X.	20 m.	57 44	18 0	XVII.	34 m.	73 0	93	87	89	88
	7	26 50	13 45		21	59 20	18 30		35	75 56	108	101	104	103
IV.	8 m.	29 49	14 0	XI.	22 m.	60 39	19 0	XVIII.	36 m.	78 6	124	117	120	118
	9	32 48	14 15		23	61 47	19 30		37	81 10	139	132	135	134
V.	10 m.	35 35	14 30	XII.	24 m.	62 4	20 0	XIX.	38 m.	84 0	156	148	150	149
	11	38 9	14 45		25	64 12	21 0		39	87 40	172	162	164	163
VI.	12 m.	40 32	15 0	XIII.	26 m.	65 10	22 0	XX.	40 m.	90 0	188	180	178	177
	13	42 41	15 15		27	65 43	23 0							
VII.	14 m.	44 42	15 30	XIV.	28 m.	65 54	24 0							

Some of the moderns reckon the different climates by the increaſe of half an hour in the length of the longeſt day, beginning at the equator, and going on till they come to the polar circle towards the pole; they then count the climates by the increaſe of a whole natural day, in the length of the longeſt day, till they come to a parallel, under which the day is of the length of fifteen natural days, or half a month; from this parallel they proceed to reckon the climates by the increaſe of half or whole months, in the artificial day, till they come to the pole itſelf, under which the length of the day is ſix months. Thoſe between the equator and the polar circles, are called hour climates; and thoſe between the polar circles and the poles, month climates. Vulgarly the term climate is beſtowed on any country or region differing from one another, either in reſpect of the ſeaſons, the quality of the ſoil, or even the manners of the inhabitants, without any regard to the length of the longeſt day.

CLIMAX, or GRADATION, in rhetoric, a figure wherein the word or expreſſion which ends the firſt member of a period begins the ſecond, and ſo on; ſo that every member will make a diſtinct ſentence, taking its riſe from the next foregoing, till the argument and period be beautifully finiſhed: or in the terms of the ſchools, 'tis when the word or expreſſion, which was predicate in the firſt member of a period, is ſubject to a ſecond, and ſo on, till the argument and period be brought to a noble concluſion; as in the following gradation of Dr. Tillotſon. "After we have practiſed "good actions a while, they become "eaſy; and when they are eaſy, we be-"gin to take pleaſure in them; and "when they pleaſe us, we do them fre-"quently; and by frequency of acts, a "thing grows into a habit; and con-"firmed habit is a ſecond kind of na-"ture; and ſo far as any thing is natu-"ral, ſo far it is neceſſary, and we can "hardly do otherwiſe; nay, we do it "many times, when we do not think "of it."

CLINCH, in the ſea-language, that part of a cable which is bended about the ring of the anchor, and then ſeized, or made faſt.

CLINCHING, in the ſea-language, a kind of ſlight caulking uſed at ſea, in a proſpect of foul weather, about the ports: it conſiſts in driving a little oakum into their ſeams, to prevent the water's coming in at them.

CLINIC, a term applied by the antient church-hiſtorians, to thoſe who received baptiſm on their death bed.

It was the doctrine of many of the fathers, that baptiſm waſhed away all previous ſins, and that there was no atonement for ſins committed after baptiſm. On this account many deferred that ſacrament till they were arrived at the laſt ſtage of life, and were pretty ſafe from

from the danger of finning any more.

CLINIC, in a modern fenfe, is feldom ufed but for a quack, or rather for an empirical nurfe, who pretends to have learned the art of curing difeafes by attending on the fick.

CLINIC MEDICINE, *medicina clinica*, was particularly ufed for the method of vifiting and treating fick perfons in bed, for the more exact difcovery of all the fymptoms of their difeafe.

CLINOIDES, in anatomy, are four fmall proceffes in the infide of the os fphenoides, forming a cavity called fella turcica, in the middle of that bone in which lies the glandula pituitaria.

CLINOPODIUM, in botany, a genus of the didynamia-gymnofpermia clafs of plants, whofe corolla confifts of one ringent petal: it has no pericarpium; the cup is contracted at the neck, gibbous at the belly, and contains four roundifh feeds.

CLITORIA, in botany, a genus of the diadelphia-decandria clafs of plants: the flower is papilionaceous: the vexillum is very large, patent, and plicatile: the alæ are oblong and obtufe, and fhorter than the vexillum: the carina is fhorter than the alæ, and is roundifh and hooked: the fruit is a very long pod, compreffed, having one cell and two valves; the feeds are numerous, and kidney-fhaped.

CLITORIS, or as fome call it, *mentula muliebris*, in anatomy, a part of the external female pudenda, fituated at the angle which the nymphæ form with each other.

Its common ftate is to be almoft entirely buried under the fkin or prepuce. Its general fize is that of the uvula, or fcarce fo much: its fhape much refembles the fhape of that part, yet it fometimes is found of an extraordinary bignefs, as large as the penis: but even in this cafe, it has no urethra. It has a glans or apex as the penis has, but this is not perforated. It is ufually covered with a fœtid matter, like that of the glans of the penis. The prepuce covering the glans of the clitoris, is formed of the cutis of the pudendum, and furnifhed with nervous papillæ: hence it is of exquifite fenfibility to the touch. It has alfo a ligament, by which it is connected to the offa pubis, in the fame manner as the penis is in men. Its ufe is to produce a titilation in the coitus, and to encreafe the pleafure.

CLOACA, in roman antiquity, the common fewer, by which the filth of the city of Rome was carried away.

It was built with great ftones, in the form of an arch, fo well faftened and cemented together, that the continual running of water and filth had not damaged it in the fpace of 700 years. There were many finks in the city, which all fell into this common fewer; and the officers appointed to take care of this work, and to fee it repaired, were called *curatores cloacarum urbis*.

CLOACA, in comparative anatomy, imports the canal in birds, through which the egg defcends from the ovary in its exit.

CLOATHED, in the fea-language. A maft is faid to be cloathed, when the fail is fo long as to reach down to the gratings of the hatches, fo that no wind can blow below the fail.

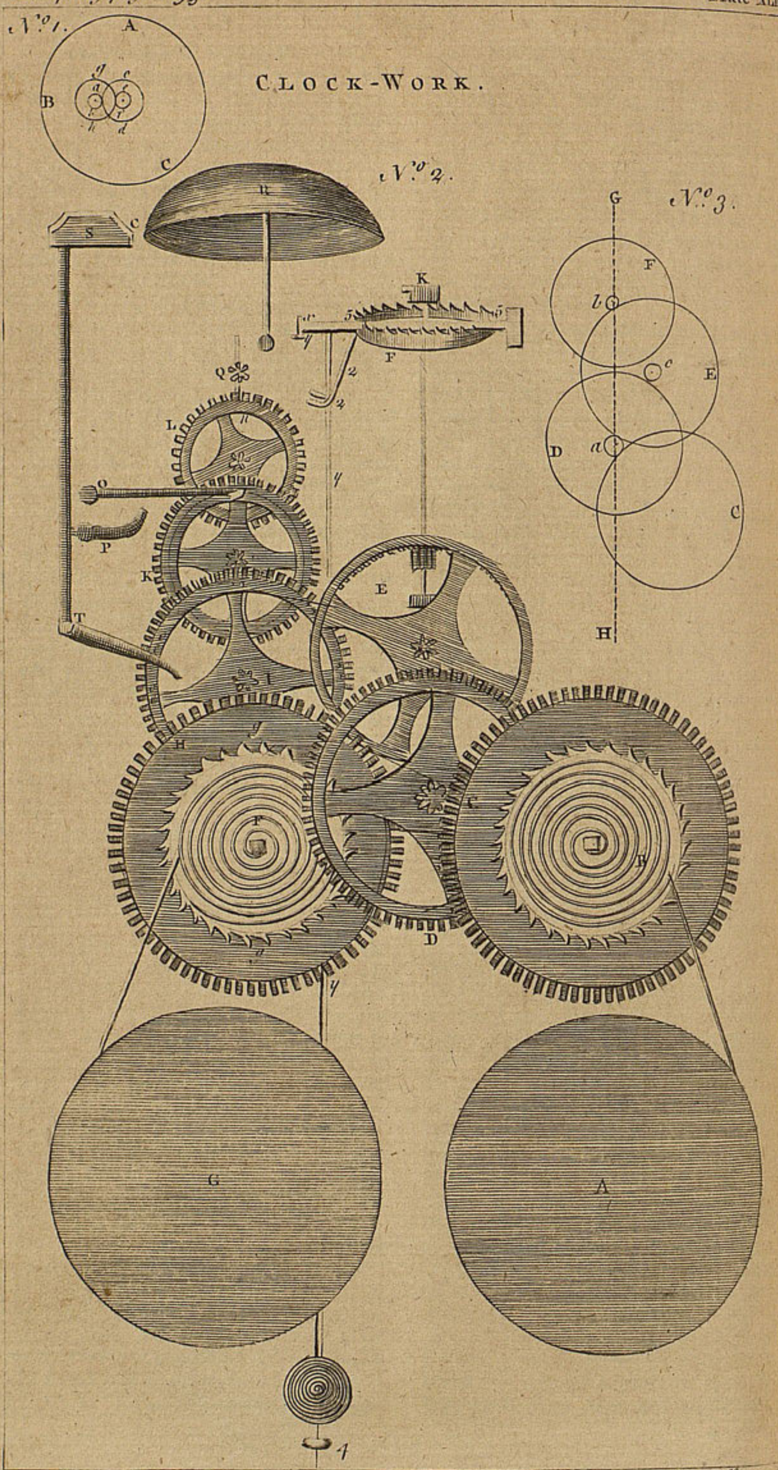
CLOCK, a kind of movement, or machine, ferving to meafure time.

The invention of clocks is attributed to Pacificus, archdeacon of Verona, who lived in the time of Lotharius: others afcribe it to Boëtius, about the year 510: be that as it will, it is certain that the art of making clocks, fuch as are now in ufe, was either firft invented, or at leaft retrieved in Germany, about 230 years ago; and the invention of pendulum clocks, fo late as the laft age, is difputed between Huygens and Galileo.

Principles of CLOCK *and* WATCH *work*. In all automata, or machines of clock-work, there is a natural agent, or principle of motion, which, by acting on one part, gives motion to that and all the other parts depending upon it, and confequently becomes the primum mobile, or firft mover, to the whole machine.

In common clocks and watches, this is of two forts, *viz.* a fpring or a weight; either of which may be made to act with any determinate force: the fpring, by its elafticity; and the weight, by its gravity. In thefe machines this force is required to be fuch as will overcome the *vis inertiæ*, and friction, of all the parts in motion, which in watches is very inconfiderable, but in clocks is much greater, and that in proportion as they are more compounded.

The manner that a weight acts upon the cylinder, about which the line or cord (to which it hangs) is wound, is eafy to be underftood by all: but the action of the fpring coiled up within the cylindric barrel, or box of a clock or watch, is fomewhat more nice and myfterious; and



T. Jefferys sculp.

and the manner how it acts upon the fuſee always with an equal force, by means of the chain and the proper figure of the fuſee, for that purpoſe, is next to be explained.

The chain being fixed at one end of the fuſee, and at the other to the barrel; when the machine is winding up, the fuſee is turned round, and of courſe the barrel; on the inſide of which is fixed one end of the ſpring, the other end being fixed to an immovable axis in the center. As the barrel moves round, it coils the ſpring ſeveral times about the axis, thereby encreaſing its elaſtic force to a proper degree: all this while the chain is drawn off the barrel upon the fuſee, and then when the inſtrument is wound up, the ſpring, by its elaſtic force endeavouring conſtantly to unbend itſelf, acts upon the barrel, by carrying it round, by which the chain is drawn off from the fuſee; and thus turns the fuſee, and conſequently the whole machinery.

Now, as the ſpring unbends itſelf by degrees, its elaſtic force, by which it affects the fuſee, will gradually decreaſe; and therefore, unleſs there were ſome mechanical contrivance in the figure of the ſuperficies of the fuſee, to cauſe, that as the ſpring grows weak, the chain ſhall be removed farther from the center of the fuſee, ſo that what is loſt in the ſpring's elaſticity, is gained in the length of the lever: were it not for this contrivance, the ſpring's force would always be unequal upon the fuſee, and thus would turn the fuſee, and conſequently the whole machinery unequally. All which is remedied by the conical figure of the fuſee.

The fuſee being acted upon, or put in motion, by an uniform force, the great wheel, which is fixed to it, is put into motion, and that drives the pinion of the center-wheel, which center-wheel drives the pinion of the third wheel, and this drives the pinion of the contrate wheel, and this the pinion of the balance-wheel, which plies the two pallets on the axis of the balance, and keeps the balance in motion.

The balance in a watch is inſtead of the pendulum in a clock, both ſerving to govern the motion of the whole machinery. To this balance is fixed a ſmall ſteel ſpiral ſpring, which regulates the motions thereof, and makes it equable; whence it has its name of regulator.

When the watch is wound up, the chain from the ſpring exerts a force upon the fuſee, which gives motion to all the parts of the machine, in the following manner; as will be eaſy to underſtand, when the number of teeth in each wheel, and leaves in the pinions which they drive, are ſpecified, and theſe in modern thirty-hour watches are as follows.

	Teeth.	Leaves.
Great wheel	48	12
Center-wheel	54	6
Third wheel	84	6
Contrate wheel	48	6
Balance-wheel	15	2 pallets.

Hence it is eaſy to conceive how often any one wheel moves round in the time of one revolution of that which drives it. Thus the great wheel on the fuſee, having forty-eight teeth, and driving the center-wheel by a pinion of twelve, muſt cauſe the center-wheel to move round four times in one turn of the fuſee, and ſo for all the reſt, as follows.

12)48(4 = turns of the center wheel.
6)54(9 = turns of the third wheel.
6)48(8 = turns of the contrate wheel.
6)48(8 = turns of the balance wheel.

Whence it follows, that the turns of each of theſe wheels reſpectively, in one turn of the fuſee, will be had by multiplying thoſe ſeveral quotients together ſucceſſively as follows.

		Turns of the
	1	fuſee wheel
4×1 =	4	center-wheel
9×4×1 =	36	third wheel
8×9×4×1 =	288	contrate wheel.
8×8×9×4×1 =	2304	balance wheel

See the article Beats *of a watch*.

But all that has been hitherto ſaid, ſhews only the minutes of an hour, and ſeconds or quarter ſeconds of a minute, for nothing has been yet mentioned relating to the mechaniſm for ſhewing the hour of the day. This part of the work lies concealed from ſight, between the upper plate of the watch-frame and the dial-plate. In this work, ABC (plate XLIII. N°. 1.) is the uppermoſt ſide of the frame-plate, as it appears when detached from the dial-plate: the middle of this plate is perforated with a hole, receiving that end of the arbor of the center-wheel, which carries the minute-hand; near the plate is fixed a pinion *ab* of ten teeth: this is called the pinion of report; it drives a wheel *cd* of forty teeth; this wheel *cd* carries a pinion *ef* of twelve teeth; and this drives a wheel *gh* with thirty-ſix teeth.

As in the body of the watch the wheels every where divide the pinions, here, on the contrary, the pinions divide the wheels, and by that means decreaſe the motion, which is here neceſſary; for the hour-hand, which is carried on a ſocket fixed on the wheel *gh*, is required to move but once round, while the pinion *ab* moves twelve times round. To this end the motion of the wheel *cd* is $\frac{1}{4}$ of the pinion *ab*: again, while the wheel *cd*, or the pinion *ef*, goes once round, it turns the wheel *gb* but $\frac{1}{3}$ part round; conſequently the motion of *g b* is but $\frac{1}{3}$ of $\frac{1}{4}$ of the motion of *ab*; but $\frac{1}{3}$ of $\frac{1}{4} = \frac{1}{12}$, that is, the hour-wheel *gb* moves once round in the time that the pinion of report, on the arbor of the center or minute-wheel, makes twelve revolutions, as required.

Having thus ſhewn the nature and mechaniſm of a watch, the ſtructure of that part of a clock which is concerned in ſhewing the time, will eaſily be underſtood.

The mechaniſm of a clock conſiſts of two parts, one to ſhew the time, the other to report it, by ſtriking the hour upon a bell. Each part is actuated or moved by weights, as in common clocks; or by ſprings included in boxes or barrels, as that repreſented by A. (*ibid.* N°. 2.) This cylinder moves the fuſee B, and the great wheel C (to which it is fixed) by the line or cord that goes round each, and anſwers to the chain of the watch.

The method of calculating is here much the ſame as before: for, ſuppoſe the great wheel C goes round once in twelve hours, then if it be a royal pendulum-clock, ſwinging ſeconds, we have $60 \times 60 \times 12 = 43200$ ſeconds or beats, in one turn of the great wheel. But becauſe there are 60 ſwings or ſeconds in one minute, and the ſeconds are ſhewn by an index on the end of the arbor of the ſwing wheel, which in thoſe clocks is in an horizontal poſition; therefore, it is neceſſary that the ſwing wheel ſhould have thirty teeth, whence $60)43200(=720$, the number to be broken into quotients for finding the number of teeth for the other wheels and pinions, as before.

In ſpring clocks, the diſpoſition of the wheels in the watch-part is ſuch as is here repreſented in the figure, where the ſwing wheel F is in an horizontal poſition, the ſeconds not being ſhewn there by an index, as is done in the large pendulum clocks. Whence in theſe clocks, the wheels are diſpoſed in a different manner, as repreſented in N°. 3. *ibid.* where C is the great wheel, D the center or minute-wheel, both as before; but the contrate wheel E is placed on one ſide, and F the ſwing wheel is placed with its center in the ſame perpendicular line G H, with the minute wheel, and with its plane perpendicular to the horizon, as are all the others. Thus the minute and hour-hands turn on the end of the arbor of the minute-wheel at *a*, and the ſecond hand on the arbor of the ſwing-wheel, at *b*.

With regard to the machinery of the ſtriking part of a clock, it is to be obſerved that, as in the watch part, the primum mobile is a large ſpring, in the ſpring-barrel G, (*ibid.* N°. 2.) but in long pendulums, it is a weight. Thus, by its cord and fuſee, it moves the great wheel H; that gives motion to the pin-wheel I; that continues it to the detent or hoop-wheel K, and that to the warning-wheel L, which at laſt is ſpent on the flying pinion Q; this carries the fly or fan; and by its great velocity it meets with much reſiſtance from the air it ſtrikes, and by this means bridles the rapidity of the clock's motion, and renders it equable. All theſe wheels are quieſcent, unleſs when at the beginning of each hour, the detent O is lifted up, by which means the work is unlocked, and the whole put into motion, by means of the ſpring in the box G. During this motion the pins *e*, *e*, *e*, *e*, of the pin-wheel I, take the tail of the hammer T, and carrying it upwards, removes the head of the hammer S from the bell R; then being let go by the pin, it is made by a ſtrong ſpring to give a forcible ſtroke upon the bell, and this is reported as often as the hour requires, by means of a contrivance in another part. This conſiſts of moveable wheels and ſeveral leaves and other parts which cannot be underſtood by a bare deſcription, or even a repreſentation in a draught, ſo well as any perſon may have any idea of by taking off the face or dial-plate of a late-made eight-day clock; for within twenty years paſt, great improvements have been made in this part of the mechaniſm.

To the invention of Mr. Maurice Wheeler, we owe the curious contrivance of a clock deſcending on an inclined plane, the theory of which is very curious, and may be ſeen in N°. 161 of the Philoſophical Tranſactions; alſo the

clock

clock itfelf may be feen in don Saltero's coffee-houfe at Chelfea. How a clock may be made to afcend on an inclined plane, has been the contrivance of M. de Gennes. See Philofophical Tranfactions, N°. 140.

Water CLOCK, clepfydra. See the article CLEPSYDRA.

CLOGHER, a city and bifhop's fee of Ireland, in the county of Tyrone, and province of Ulfter, fituated twelve miles weft of Armagh; weft longitude 7° 30′, north latitude 54° 16′.

CLOGS, a kind of wooden pattens without rings.

The term clogs is alfo ufed for pieces of wood faftened about the necks or legs of beafts, to prevent their running away.

CLOISTER, *clauftrum*, an habitation furrounded with walls, and inhabited by religious.

In a more general fenfe it is ufed for a monaftery of religious of either fex. In the firft fenfe, it is the principal part of a regular monaftery, being a fquare furrounded with walls or buildings. It is commonly placed between the church, the chapter-houfe, and refectory, underneath the dormitory.

The cloifters, in antient monafteries, ferved for feveral purpofes: it was here the monks held their lectures; the lectures of morality at the north fide, next the church; the fchool on the weft; and the chapter on the eaft: fpiritual meditations, &c. being referved for the church.

CLOSE, in heraldry. When any bird is drawn in a coat of arms with its wings clofe down about it (*i. e.* not difplayed) and in a ftanding pofture, they blazon it by this word *clofe*; but if it be flying, they call it volant. See VOLANT.

CLOSE *behind*, in the manege, a horfe whofe hoofs come too clofe together: fuch horfes are commonly good ones.

To clofe a paffade juftly, is when the horfe ends the paffade with a demivolt in good order, well narrowed and rounded, and terminating upon the fame line upon which he parted, fo that he is ftill in a condition to part from the hand handfomely, at the very laft time or motion of his demivolt.

CLOSE, in mufic. See CADENCE.

CLOSE-FIELD. See the article FIELD.

CLOSE-FIGHTS, in the fea-language, fuch bulk-heads as are in a clofe fight put up fore and aft in a fhip, for the men to ftand behind them fecure, and fire upon the enemy; and if the fhip is boarded, to fecure and clear the decks.

CLOSE-FIRE. See REVERBERATION.

Pound CLOSE. See the article POUND.

CLOSE-QUARTERS. See QUARTERS.

CLOSET, in building, denotes a very fmall room, generally without any chimney: it is efteemed one great improvement of our modern architects.

CLOSET, in heraldry, denotes the half of a bar. See the article BAR.

Clerk of the CLOSET, a chaplain who affifts the king in his private devotions.

CLOSH, an unlawful game forbidden by ftat. 14. Edward IV. cap. 3 and 33. and Henry VIII. cap. 9. It is faid to have been much the fame with our ninepins.

CLOT-BIRD, the fame with the oenanthe of ornithologifts. See OENANTHE.

CLOTH, in commerce, a manufacture made of wool wove on the loom.

The term is applicable alfo to other manufactures made of hemp, flax, &c. but in a more particular fenfe it implies the web or tiffue of woolen threads interwoven, fome whereof, called the warp, are extended in length from one end of the piece to the other: the reft, called the woof, difpofed acrofs the firft, or breadth-wife of the piece.

Cloths are of divers qualities, fine or coarfe. The goodnefs of cloth, according to fome, confifts in the following particulars. 1. That the wool be of a good quality, and well dreffed. 2. It muft be equally fpun, carefully obferving that the thread of the warp be finer and better twifted than that of the woof. 3. The cloth muft be well wrought and beaten on the loom, fo as to be every where equally compact. 4. The wool muft not be finer at one end of the piece than in the reft. 5. The lifts muft be fufficiently ftrong, of the fame length with the ftuff, and muft confift of good wool, hair, or oftrich-feathers; or, what is ftill better, of danifh dog's hair. 6. The cloth muft be free from knots, and other imperfections. 7. It muft be well fcoured with fuller's earth, well fulled with the beft white foap, and afterwards wafhed in clear water. 8. The hair or nap muft be well drawn out with the teazel, without being too much opened. 9. It muft be fhorn clofe without making it threadbare. 10. It muft be well dried. 11. It muft not be tenter-ftretched, to force it to its juft dimenfions. 12. It muft be

preſſed cold, not hot preſſed, the latter being very injurious to woolen cloth.

Manufacturing of white cloths which are intended for dying.

The beſt wool for the manufacturing of cloths are thoſe of England and Spain, eſpecially thoſe of Lincolnſhire and Segovia. To uſe thoſe wools to the beſt advantage, they muſt be ſcoured, by putting them into a liquor ſomewhat more than lukewarm, compoſed of three parts fair water, and one of urine. After the wool has continued long enough in the liquor to ſoak, and diſſolve the greaſe, it is drained and well waſhed in running water. When it feels dry, and has no ſmell but the natural one of the ſheep, it is ſaid to be duly ſcoured.

After this it is hung to dry in the ſhade, the heat of the ſun making it harſh and inflexible: when dry, it is beat with rods upon hurdles of wood, or on cords, to cleanſe it from duſt, and the groſſer filth; the more it is thus beat and cleanſed, the ſofter it becomes, and the better for ſpinning. After beating, it muſt be well picked, to free it from the reſt of the filth that had eſcaped the rods.

It is now in a proper condition to be oiled, and carded on large iron cards, placed ſlopewiſe. Olive oil is eſteemed the beſt for this purpoſe: one fifth of which ſhould be uſed for the wool intended for the woof, and a ninth for that deſigned for the warp. After the wool has been well oiled, it is given to the ſpinners, who firſt card it on the knee with the ſmall fine cards, and then ſpin it on the wheel, obſerving to make the thread of the warp ſmaller by one third than that of the woof, and much compacter twiſted.

The thread thus ſpun, reeled, and made into ſkeins, that deſigned for the woof is wound on little tubes, pieces of paper, or ruſhes, ſo diſpoſed, as that they may be eaſily put in the eye of the ſhuttle. That for the warp is wound on a kind of large wooden bobbins, to diſpoſe it for warping. When warped, it is ſtiffened with ſize, the beſt of which is that made of ſhreds of parchment, and when dry, is given to the weavers, who mount it on the loom.

The warp thus mounted, the weavers, who are two to each loom, one on each ſide, tread alternately on the treddle, firſt on the right ſtep, and then on the left, which raiſes and lowers the threads of the warp equally; between which they throw tranſverſely the ſhuttle from the one to the other: and every time that the ſhuttle is thus thrown, and a thread of the woof inſerted within the warp, they ſtrike it conjunctly with the ſame frame, wherein is faſtened the comb or reed, between whoſe teeth the threads of the warp are paſſed, repeating the ſtroke as often as is neceſſary.

The weavers having continued their work till the whole warp is filled with the woof, the cloth is finiſhed; it is then taken off the loom by unrolling it from the beam whereon it had been rolled in proportion as it was wove; and now given to be cleanſed of the knots, ends of threads, ſtraws, and other filth, which is done with iron-nippers.

In this condition it is carried to the fullery, to be ſcoured with urine, or a kind of potter's clay, well ſteeped in water, put along with the cloth in the trough wherein it is fulled. The cloth being again cleared from the earth or urine, is returned to the former hands to have the leſſer filth, ſmall ſtraws, &c. taken off as before: then it is returned to the fuller to be beat and fulled with hot water, wherein a ſuitable quantity of ſoap has been diſſolved; after fulling, it is taken out to be ſmoothed, or pulled by the liſts lengthwiſe, to take out the wrinkles, crevices, &c.

The ſmoothing is repeated every two hours, till the fulling be finiſhed, and the cloth brought to its proper breadth: after which it is waſhed in clear water, to purge it of the ſoap, and given wet to the carders to raiſe the hair or nap on the right ſide with the thiſtle or weed.

After this preparation, the cloth-worker takes the cloth, and gives it its firſt cut or ſheering: then the carders reſume it, and after wetting, give it as many more courſes with the teazle, as the quality of the ſtuff requires, always obſerving to begin againſt the grain of the hair, and to end with it; as alſo to begin with a ſmoother thiſtle, proceeding ſtill with one ſharper and ſharper, as far as the ſixth degree.

After theſe operations, the cloth being dried, is returned to the cloth-worker, who ſheers it a ſecond time, and returns it to the carders, who repeat their operation as before, till the nap be well ranged on the ſurface of the cloth, from one end of the piece to the other.

The cloth thus wove, ſcoured, napped and ſhorn, is ſent to the dyer; when dyed,

dyed, 'tis waſhed in fair water, and the worker takes it again wet as it is, lays the nap with a bruſh on the table, and hangs it on the tenters, where it is ſtretched both in length and breadth ſufficiently to ſmooth it, ſet it ſquare, and bring it to its proper dimenſions, without ſtraining it too much; obſerving to bruſh it afreſh, the way of the nap, while a little moiſt, on the tenters.

When quite dry, the cloth is taken off the tenters and bruſhed again on the table, to finiſh the laying of the nap; after which it is folded, and laid cold under a preſs, to make it perfectly ſmooth and even, and give it a gloſs.

Laſtly, the cloth being taken out of the preſs, and the papers, *&c.* for gloſſing it removed, it is in a condition for ſale or uſe.

With regard to the manufacture of mixt cloths, or thoſe wherein the wools are firſt dyed, and then mixt, ſpun and wove of the colours intended, the proceſs, except what relates to the colour, is moſtly the ſame with that juſt repreſented.

CLOUD, in phyſiology, a collection of vapours ſuſpended in the atmoſphere; being a congeries chiefly of watry particles, drawn up from the ſea and land by the ſolar or ſubterraneous heat, or both, in vapour: though ſome attribute the riſe of the vapours to electricity. See the article ELECTRICITY.

If the water that is floating about in the air mounts higher and higher, its particles at length arrive in places ſo far above the earth, that they are not any longer much united together, but receding from each other, they do not conſtitute water, but only the elements of it: yet when thoſe elements of water come to deſcend from the upper regions, and are contracted into ſmaller ſpaces, where they aſſociate together and become water, they then form clouds; their denſity is firſt augmented, ſo as to render them opaque enough to reflect the ſun's light, and become viſible; and their ſpecific gravity being increaſed, makes them deſcend in rain.

Clouds, beſides their uſe, when they deſcend in ſhowers, are of ſervice while ſuſpended in the atmoſphere, as they help to mitigate the exceſſive heat of the torrid zone, and ſcreen it from the beams of the ſun, eſpecially when in the zenith. See VAPOUR and ATMOSPHERE.

Boerhaave is of opinion, that ſnowy or icy clouds are frequently ſo diſpoſed in the atmoſphere, as to form reflecting ſpeculums; from whence the ſun's rays being repelled, and collected in vaſt focuſes, occaſion the many deſtructive effects attributed to the bad ſtate of the air.

CLOUDBERRY, in botany, the engliſh name of the chamæmorus, a ſpecies of rubus. See the article RUBUS.

CLOVE TREE, in botany, the engliſh name of the caryophyllus aromaticus of botaniſts. See CARYOPHYLLUS.

CLOVE, a term uſed in weights of wool. Seven pounds make a clove.

In Eſſex, eight pounds of cheeſe and butter go to the clove.

CLOVER-GRASS is eſteemed the principal of graſs, on account of its excellency for feeding cattle. The beſt ſeed is like that of muſtard, only it is rather oblong than round, of a greeniſh yellow colour, and ſome of it a little reddiſh. A rich, light, dry land, is the moſt proper for it.

CLOUGH, or DRAUGHT, among traders, an allowance of two pounds to every three hundred weight, for the turn of the ſcale, that the commodity may hold out when ſold by retail.

CLOUTS, in military affairs, are thin plates of iron nailed on that part of the axletree of a gun's carriage, which comes through the nave, through which the linſ-pin goes.

CLOYED, in the ſea-language, is ſaid of a great gun, the touch-hole of which is ſtopped up.

CLOYNE, a city and biſhop's ſee of Ireland, in the county of Cork, and province of Munſter, about fifteen miles eaſt of Cork: weſt long. 8°, north lat. 51° 40'.

CLUPEA, in ichthyology, a genus of malacopterygious fiſhes, the characters of which are theſe: the branchioſtege membrane contains eight ſmall bones; and the abdomen is acute and ſerrated.

To this genus belong the herring, ſhad, anchovy, and ſprat. See the articles HERRING, SHAD, *&c.*

CLUSIA, in botany, a genus of the polyandria-monogynia claſs of plants, the flower of which conſiſts of five large, roundiſh, patent, concave petals: the fruit is an ovated capſule, with ſix furrows, having ſix valves and ſix cells, containing numerous ovated ſeeds, covered with a pulp.

CLUTIA, in botany, a genus of the dioecia-gynandria claſs of plants, the male flower of which conſiſts of five patent, cordated petals: the female flower has perſiſtent petals, as in the male; the fruit is

is a globose, scabrous capsule, with six furrows, and three cells, containing solitary, roundish, clear seeds.

CLYDE, a river of Scotland, which, arising in Annandale, runs north-west by Lanerk, Hamilton, and Glasgow, and falls into the frith of Clyde, over-against the isle of Bute.

CLYPEOLA, in botany, a genus of the tetradynamia-siliculosa class of plants, the flower of which consists of four petals of the form of a cross: the fruit is an orbiculated, plano-compressed, erect pod, with two valves, containing orbiculated seeds in the center of the pericarpium.

CLYPEUS, or CLYPEUM, a shield or buckler. See the article SHIELD.

CLYSSUS, in chemistry, an extract prepared not from one but several bodies mixt together: and among the moderns, the term is applied to several extracts procured from the same body, and then mixed together. Thus, if from wormwood we draw the water, spirit, oil, salt, and tincture, and according to the rules of art re-unite these into a mass compounded of them all, and containing the joint virtues of all, we have a clyssus of wormwood. To this class are reducible many of the noblest productions of chemistry, as the more curious sapas, and an infinite number of others.

CLYSSUS *of antimony*, is a liquor obtained by distillation from a mixture of antimony, nitre and sulphur. It is prescribed to feverish patients, in order to procure a grateful acidity to their potions, and to such as labour under a loss of appetite.

CLYSTER, is a liquid remedy to be injected chiefly at the anus into the larger intestines. It is usually administered by the bladder of a hog, sheep, or ox, perforated at each end, and having at one of the apertures an ivory pipe fastened with packthread. But the French, and sometimes the Dutch, use a pewter syringe, by which the liquor may be drawn in with more ease and expedition than in the bladder, and likewise more forcibly expelled into the large intestines. This remedy should never be administered either too hot or too cold, but tepid; for either of the former will be injurious to the bowels.

Clysters are prepared of different ingredients, according to the different intentions proposed, whether to soften the indurated faeces, correct the acrid, acid and saline recrements, evacuate the contents of the large intestines, corroborate the languid fibres of the intestines, and augment their impaired peristaltic motion; to mitigate the spasms of the intestinal coats, and relax their constricted fibres; to cause a revulsion downwards in lethargic disorders, apoplexies, frenzies, and other disorders of the head; to promote labour, whether the foetus be living or dead; and to expel the secundines where they are preternaturally detained.

Clysters are sometimes used to nourish and support a patient who can swallow little or no aliment, by reason of some impediment in the organs of deglutition. In which cases they may be made of broth, milk, ale, and decoctions of barley and oats with wine. The English introduced a new kind of clyster, made of the smoke of tobacco, which has been used by several other nations, and appears to be of considerable efficacy when other clysters prove ineffectual, and particularly in the iliac passion, and in the *hernia incarcerata*, though it may likewise be used in an obstinate constipation or obstruction of the bowels, &c. See Heister's surgery, and Graffius's and Sawzonius's dissertation upon the subject, published in the year 1691.

CNEMODACTYLÆUS, in anatomy, a name by which some call one of the extensor muscles of the fingers. See the article EXTENSOR.

CNEORUM, in botany, a genus of the triandria-monogynia class of plants: the flower consists of three oblong, lanceolato-linear, concave, erect, deciduous petals: the fruit is a dry, globose, trilobular and trilocular berry, containing solitary roundish seeds.

CNICUS, SAFFRON-FLOWER, in botany, a genus of the syngenesia-polygamia-frustranea class of plants: the compound flower is flosculous, difform, and tubulous; the proper hermaphrodite one, infundibuliform and oblong; and the female one of a funnel-form also, but slenderer and longer: the calyx of the hermaphrodite contains solitary seeds, crowned with down: the females prove abortive. See place XLIV. fig. 1.

COACH, a commodious vehicle for travelling, so well known as to need no description. Their invention was owing to the French about the reign of Francis I. They have, like other things, been brought to their present perfection by degrees: at present they seem to want nothing, either with regard to ease or magnificence. Lewis XIV. of France, made

made divers sumptuary laws for restraining the excessive richness of coaches, prohibiting the use of gold and silver therein, but they have been neglected. In England, and most parts of Europe, the coaches are drawn by horses, except in Spain, where they use mules. In a part of the East, especially the dominions of the great mogul, the coaches are drawn by oxen: in Denmark, they sometimes use rein-deer; but this is rather for curiosity than use. The coachman is ordinarily placed on a seat raised before the body of the coach; but the spanish policy has displaced him in that country by a royal ordinance on occasion of the duke of Olivarez, who found that a very important secret had been discovered and revealed by his coachman. Since which time the place of the spanish coachman, is the same with that of the french stage-coachman, and our postillion.

Coaches are distinguished with regard to their structure into coaches, properly so called, landaus, chariots, berlins, calashes, &c. With regard to the circumstances of their use, we distinguish them into stage coaches and hackney-coaches. Hackney coaches, are those exposed to hire in the streets of great cities, at rates fixed by authority. In London and Westminster, eight hundred.

Hackney-COACHES are allowed by statute, and these must be licensed by commissioners, and pay a duty to the crown. Any person driving any such coach without licence, forfeits 5 l. The fare of coaches is 10 s. a day, 1 s. 6 d. for the first hour, and 1 s. every hour after; or 1 s. for a mile and four furlongs, and 1 s. 6 d. for two miles.

There are certain places and distances mentioned in the act for the extent of the respective fares, and others rated by the commissioners; and coachmen refusing to go for their fare, are liable to penalties; as also for not having numbers to their coaches.

Stage-COACHES are those appointed for the conveyance of travellers from one city or town to another.

COADJUTOR, is properly used for a prelate joined to another to assist him in the discharge of his function, and even in virtue thereof to succeed him.

Coadjutors were formerly appointed by kings for archbishops and bishops grown old, or absent, and not able to administer in their diocese. But the right of appointing coadjutors in the romish countries, is now reserved to the pope alone. The popes formerly made a shameful abuse of the coadjutories: some they granted to children; others, to people not in orders; others, to persons at a distance: but the council of Trent tied down the pope's hands, by adding abundance of restrictions on this article. In nunneries, they have coadjutrixes, who are religious nominated to succeed the abbess, under pretence of aiding her in the discharge of her office.

COAGMENTATION, among chemists, is the melting any body by casting in certain powders, and afterwards letting the whole concrete into a solid.

COAGULATION, in a general sense, imports a certain change in the state of any liquor, by means of which, instead of retaining its fluidity, it becomes more or less consistent, according to the degree of coagulation.

Apothecaries coagulate fluids in various manners, by evaporation, for instance, or distillation; and this species is called by chemists *coagulatio per segregationem*, or *per separationem*.

COAGULATION, *per comprehensionem*, in chemistry, is when the whole of the fluid, without the loss of any of its parts, is coagulated into an uniform substance. This is performed, 1. With water, by congealing, crystallizing, and precipitating, as in the mercurius vitæ. 2. With oil, which by force of fire unites to itself sulphur, salts, and metals. 3. With alcohol, upon the volatile spirit of sal armoniac, the white of eggs, the serum of the blood, and oil of vitriol. 4. With alcali and acid, growing solid together, as particularly in the tartar of vitriol. 5. With fixed alcali, as in milk. 6. With acid salts, as in milk, serum, and white of eggs.

COAGULUM, is the same with what in english we call rennet, or rather the curd formed thereby. See RENNET.

COAGULUM ALUMENOSUM, in pharmacy, is made by stirring any quantity of whites of eggs with a piece of alum of a proper size in a tin-vessel, till they are coagulated; said to be good in defluxions of the eyes.

COAL, or PIT-COAL, *lithanthrax*, in natural history. See LITHANTHRAX.

Cannel COAL, *ampelites*, in natural history. See the article AMPELITES.

Small-COAL, a sort of charcoal prepared from the spray and brush-wood stripped off

off from the branches of coppice-wood, ſometimes bound in bavins for that purpoſe, and ſometimes charred without binding, and then it is called coming it together.

The wood they diſpoſe on a level floor, and ſetting a portion of it on fire, they throw on more and more as faſt as it kindles, whence ariſes a ſudden blaze, till all be burnt that was near the place. As ſoon as all the wood is thrown on, they caſt water on the heap from a large ſcoop, and thus keep plying the heap of glowing coals, which ſtops the fury of the fire; while with a rake they ſpread it open, and turn it with ſhovels, till no more fire appears. Then they ſhovel them up into great heaps, and when thoroughly cold, put them up in ſacks, to be uſed by families for kindling their fires, and by divers artificers, to temper and anneal their ſeveral works.

Char-COAL. See the article CHAR-COAL.

COAL-FISH. See the article COLE-FISH.

COALITION, the re-union of the parts of a body, before ſeparated. See the article CONGLUTINATION.

COAMINGS, in ſhip-building, are thoſe planks which raiſe up the hatches higher than the reſt of the deck, in which loop-holes for muſkets to ſhoot out are uſually made, in order to clear the deck when the ſhip is boarded by an enemy.

COAST, that part of a country next the ſea-ſhore. See SEA and SHORE.

COASTEMARY, or COSTEMARY, in botany. See the article COSTEMARY.

COASTING, that part of navigation where the places aſſigned are not far diſtant, ſo that a ſhip may ſail in ſight of land, or within ſoundings, between them. In this there is only required a good knowledge of the land, the uſe of the compaſs and lead, or ſounding line.

COASTING, in agriculture, denotes the tranſplanting a tree, and placing it in the ſame ſituation with reſpect to eaſt, weſt, ſouth and north, as it ſtood in before it was tranſplanted.

COAT, or COAT of ARMS, in heraldry, a habit worn by the antient knights over their arms both in war and tournaments, and ſtill borne by heralds at arms. It was a kind of ſur-coat, reaching as low as the navel, open at the ſides with ſhort ſleeves, ſometimes furred with ermine and hair, upon which were applied the armories of the knights embroidered in gold and ſilver, and enamelled with beaten tin-coloured black, green, red and blue; whence the rule never to apply colour on colour, nor metal on metal. The coats of arms were frequently open, and diverſified with bands and fillets of ſeveral colours, alternately placed, as we ſtill ſee cloths, ſcarleted, watered, *&c.* Hence they were called deviſes, as being divided and compoſed of ſeveral pieces ſewed together; whence the words, *falſe*, *pale*, *chevron*, *bend*, *croſs*, *ſaltier*, *lozenge*, &c. which have ſince become honourable pieces or ordinaries of the ſhield. See the articles CROSS, BEND, CHEVRON, *&c.*

Coats of arms and banners were never allowed to be worn by any but knights and antient nobles.

COAT, in anatomy. See the articles TUNICA and EYE.

COAT *of* MAIL. See the article MAIL.

COATS, in a ſhip, are pieces of tarred canvaſs put about the maſts at the partners to keep out water. They are alſo uſed at the rudder's head, and about the pumps at the decks, that no water may go down there.

COATING, in chemiſtry, the ſame with lorication. See LORICATION.

COBALT, *cobaltum*, a genus of foſſils, of the order of the aſphurelata: it is a denſe, compact, and ponderous mineral, very bright and ſhining, and much reſembling ſome of the antimonial ores. See the article ANTIMONY.

It is ſometimes found of a deep bluiſh-black, very heavy and hard, and of a granulated ſtructure, looking like a piece of pure iron where freſh broken: at other times, it is found more compact, not granulated, but reſembling a maſs of melted lead on the ſurface. Theſe are the more ordinary appearances of cobalt, beſides which there are other accidental varieties of it, being ſometimes found of a florid red, or a red debaſed by mixtures of grey, black or yellow; and in this ſtate, it either forms an uniform maſs, or a beautifully ſtriated and ridged one.

From this mineral are produced the ſeveral kinds of arſenic, zaffre, and ſmalt. See the articles ARSENIC, ZAFFRE, *&c.*

COBALT is alſo uſed to denote the damps of mines, ſo very fatal to the workmen. See the article DAMP.

COBITIS, in ichthyology, a genus of malacopterygious fiſhes, with only five ſmall bones in the branchioſtege membrane, the firſt of which is broadeſt; there are alſo cirri at the mouth: the body is ſpotted, and the back fin and thoſe of the belly

belly are at the same distance from the extremity of the head. There are three species of this fish, the smooth spotted cobitis, with the body somewhat rounded, or the loache; the cobitis, with a bifurcated spine under each eye, or the bearded loache; and the blue cobitis, with five longitudinal black lines on each side, or the fossile mustela: these species are from three to five inches in length, and from half an inch to one inch in thickness. See LOACHE and MUSTELA.

COBLENTZ, CONFLUENTIA, a large city of Germany, in the archbishopric of Triers, and circle of the lower Rhine, situated at the confluence of the Rhine and Moselle, fifty-two miles north-east of Triers, and thirty-six south of Cologne: east longitude 7° 15′, north latitude 50° 30′.

COBLON, a port-town of the hither India, situated on the Coromandel coast, twelve miles south of Fort St. George: east longitude 80°, north latitude 12° 50′.

COBWEB, in physiology, the fine network which spiders spin out of their own bowels, in order to catch their prey. Dried and powdered cobwebs are said to be a good astringent and absorbent.

COCCIFEROUS PLANTS, the same with bacciferous. See BACCIFEROUS.

COCCINELLA, in zoology, a genus of insects, of the coleoptera order, called by Dr. Hill hemisphæria, the characters of which are these: the antennæ are clavated and entire; and the thorax, with the exterior wings, which are marginated, constitutes an hemispherical figure.

Of this genus there are a great many species. 1. The coccinella with red wings, and only two black spots on them. 2. The coccinella with red wings, variegated with longitudinal white lines and spots. 3. The coccinella with red wings, and seven black spots on them: this species is very common with us, and is called the lady-cow. 4. The coccinella with yellow wings. 5. The coccinella with black wings, &c. of each of which there are several varieties, distinguished by their different spots.

COCCOTHRAUSTES, the GROSS-BEAK, or HAW-FINCH, in ornithology, a species of loxia, distinguished by having a double line of white on the wings. See the article LOXIA.

It feeds on the kernels in the stones of fruits, which it breaks with great dexterity, whence its name of coccothraustes. The *virginian coccothraustes* is a bird about the size of a black-bird, distinguished from the former species by its crest, and beautiful scarlet-colour.

COCCUS, in zoology, a genus of two-winged insects, the wings of which stand erect, and are only to be found in the males: add to this, that the rostrum, or trunk, arises from the breast, and the body is setose behind.

To this genus belong, 1. The purple coccus of the roots of plants, called by some german cochineal: it dyes a beautiful scarlet colour. 2. The kermes or coccus of the ilex. 3. The coccus of insects. 4. The cochineal-insect, or coccus of the tuna: with several other species. See the articles KERMES and COCHINEAL.

COCCYGÆUS MUSCULUS, in anatomy, a name sometimes used for the sphincter of the anus. See the article SPHINCTER.

COCCYX, or COCCYGIS OS, in anatomy, a bone situated at the extremity of the os sacrum. See the article OSTEOLOGY.

The figure of it is something like that of an inverted pyramid, a little bent forward towards the pelvis: in adults it is usually of a single bone; but in younger subjects in consists of three or four frustæ, and in infants it is merely cartilaginous. In quadrupeds of many kinds, this bone is long, composed of a number of frustæ, is bent forward, and constitutes the tail; in this case it is called the os caudæ.

COCHIA, in pharmacy, a name for certain officinal pills, as the greater pill cochiæ and the lesser pill cochiæ: the former is a composition taken from Rhases, and hardly ever used in the present practice; the latter, being the most in use of any under this class, is compounded of equal quantities of bright aloes, the purest scammony, and the pulp of colocynth, which are made into a mass with a sufficient quantity of syrup of buckthorn, adding thereto two drams of the distilled oil of cloves. They are prescribed to discuss viscidities, watry humours, and flatulencies.

COCHIN, a port-town of India, on the Malabar coast, about one hundred miles south of Calicut: west longitude 75°, and north latitude 9° 30′.

Here the Dutch have a factory, and a very strong fort.

COCHIN-CHINA, a kingdom of India, situated between 104° and 109° east longitude, and between 10° and 17° north latitude; being bounded by the kingdom of Tonquin on the north, by the indian ocean

ocean on the eaft and fouth, and by the kingdom of Cambodia on the weft: it is upwards of four hundred miles long, and one hundred and fifty broad, producing chiefly filk and rice.

COCHINEAL, or COCHINEEL, in commerce, was, till of late, fuppofed to be a vegetable production, a feed, or an excrefcence of a plant; but is now acknowledged to be the female of a fpecies of coccus, called the coccus of the tuna, from its living on the tuna opuntia, or indian fig. See the article COCCUS.

There are two forts of it, the meftique, which is efteemed the fineft, and the wild, which is lefs valuable; the difference being occafioned only by the extraordinary care that is taken of the one by being fupplied with food of a proper kind, the other living wild without the like care. It is brought from Mexico, and fome other parts of South America, where the inhabitants find it fo very advantageous an article of commerce, that they make plantations of the opuntia, and regularly breed and manage their crops, fending fuch vaft quantities of it to Europe, that it is computed there is no lefs than eight or nine hundred thoufand weight annually imported from fpanifh America.

With us it pays no duty; and is efteemed a great cordial, fudorific, alexipharmic, and febrifuge; and much ufed by dyers and painters, the high crimfon colour it affords being fcarce equalled by any thing, and making, according to their different management of it, all the degrees and kinds of red.

COCHLEA, the SNAIL-SHELL, in zoology, a genus of univalve fhell-fifh, of a fpiral figure, and containing only one cell. This is a very comprehenfive genus, and therefore fubdivided into three feries, *viz.* 1. The cochleæ which have a round or nearly round mouth, called cochleæ lunares. 2. The cochleæ with a femicircular mouth, called cochleæ femilunares. 3. The cochleæ with a narrow oval mouth, as if the fides were crufhed together, called cochleæ ore depreffo. See plate XLIV. fig. 2.

COCHLEA, in anatomy, the third part of the labyrinth of the ear. See EAR.

It is placed oppofite to the femicircular canals, and formed in the manner of a fnail-fhell, making its progrefs two turns and a half, in a fpiral form. In this we are to remark the nucleus, and the canal, which is divided into two by a fpiral lamina; the upper of thefe opens into the veftibulum, and is called fcala veftibuli; and the lower, which terminates in the hollow of the tympanum, through the feneftra rotunda, is called fcala tympani.

COCHLEA, the SCREW, in mechanics. See the article SCREW.

COCHLEARIA, SCURVY-GRASS, in botany, a genus of the tetradynamia-filiculofa clafs of plants, the flower of which confifts of four vertically ovated petals, of the form of a crofs; the fruit is a fubcordated, lightly compreffed, fcabrous, bilocular pod, containing about four feeds in each cell.

It is heating, drying, and aperitive, of great ufe againft the fcurvy, dropfy, and jaundice; and is often put into dietdrinks for thofe purpofes; it muft be remembered, however, that fcurvy-grafs, and fuch warm plants, are only proper in an acid fcurvy, being very pernicious in a putrid alcaline fcurvy.

COCK, *gallus*, in zoology, the englifh name of the males of gallinaceous birds, but more efpecially ufed for the common dunghill-cock. See the article GALLUS.

Game COCK. See GAME COCK.

Gor-COCK. See the article GOR-COCK.

Indian-COCK, *crax*. See CRAX.

Wood-COCK. See the article WOOD-COCK.

COCK-BOATS, among failors, thofe ufed only in rivers, or near the fhore.

COCK'S COMB, in botany, a name given to a fpecies of pedicularis, as well as to a fpecies of amaranth. See the articles PEDICULARIS and AMARANTH.

COCK-PIT, a fort of theatre upon which game cocks fight.

COCK-PIT, in a man of war, a place on the lower floor, or deck, abaft the maincapftan, lying between the platform and the fteward's room, where are partitions for the purfer, furgeon, and his mates.

COCK-SWAIN, or COXSON, an officer on board a man of war, who has the care of the barge and all things belonging to it, and muft be alfo ready with his crew to man the boat on all occafions: he fits at the ftern of the boat, and fteers.

COCK-WATER, among miners, a ftream of water, brought into a trough, to wafh away the fand from tin-ore, while ftamping in the middle.

COCKS, on fhip-board, are little fquare pieces of brafs, with holes in them, put into wooden fhivers, to keep them from fplitting and galling by the pin of the block.

COCKERMOUTH, a borough-town of Cum-

Cumberland, situated on the river Derwent, near the irish sea, about twenty-five miles south-west of Carlisle: west long. 3° 10′, and north lat. 54° 35′.

It sends two members to parliament.

COCKET is a seal belonging to the king's custom-house, or rather a scroll of parchment sealed and delivered by the officers of the customs to merchants, as a warrant that their merchandises are customed.

It is also used for the office where goods, transported, were first entered, and paid their custom, and had a cocket or certificate of discharge.

COCOA, or CACAO, in botany, the same with the theobroma of Linnæus. See the article THEOBROMA.

COCONATO, a town of Italy, in the province of Piedmont, about twenty miles east of Turin; it is said to be the birth-place of the famous Columbus, who discovered America: east long. 8°, and north lat. 44° 50°.

COCOS, the COCO, in botany, a genus of plants, the characters of which are not perfectly ascertained. There are male, hermaphrodite flowers, and female ones, distinct on the several parts of the same spadix; the general spatha is composite, and the spadix ramose. In the hermaphrodite flowers, the corolla is divided into three oval, acute segments; the stamina are six simple filaments, of the length of the corolla. The female flower has the corolla very minute, but divided also into three segments; the fruit is large, coriaceous, round, and obtusely trigonal; the seed is a large nut, of an oval figure, acuminated, formed of three valves, obtusely trigonal, and marked with three holes at the base.

The shell of the coco nut is much used by turners, carvers, &c. for divers works. While the nuts are new, and the bark tender, they yield each about half a pint of clear cooling water, which in a little time becomes first a white soft pulp, and at length condenses, and assumes the taste of the nut. The tree yields fruit thrice a year, and those sometimes as big as a man's head; but the cocos of the Antilles are not so large as those of the East-Indies. In the kingdom of Siam, the cocos-fruit, dried and emptied of its pulp, serves as a measure both for things liquid and dry.

COCTION, a general term for all alterations made in bodies by the application of fire or heat: of this there are various species, as maturation, friction, assation, elixation, ustion, &c. See ASSATION, FRICTION, &c. and also the articles CONCOCTION and DECOCTION.

COD, in ichthyology, the english name of the variegated gadus with three fins on the back, a cirrated mouth, and the upper jaw longest, called by different authors *asellus varius* and *asellus striatus*. See the article GADUS.

This fish receives different denominations from the places where it is caught and cured, as haberdeen, from Aberdeen in Scotland; green-fish, from Greenland; iceland-fish, from Iceland, &c. and it is also called stock-fish, because it requires to be beaten with sticks before it can be dressed.

COD is also a term used, in some parts of the kingdom, for a pod. See POD.

COD-FISHERY. See FISHERY.

COD-CAPE, in geography, a promontory on the coast of New-England, near the entrance of Boston-harbour: west long. 69° 50′, and north latitude 42°.

CODA, in the italian music, two or three measures, which, repeated several times, at the end of a canon or fugue, serve to end the piece.

Coda, in antient compositions, is when one part continues on a sound, which is its cadence, while the others proceed to modulate for four, five, six, or more bars.

CODDY-MODDY, in ornithology, the english name of a species of larus with a grey back and white rump. See the article LARUS.

CODE, *codex*, a collection of the laws and constitutions of the roman emperors, made by order of Justinian.

The code is accounted the second volume of the civil law, and contains twelve books, the matter of which is nearly the same with that of the digests, especially the first eight books; but the stile is neither so pure, nor the method so accurate as that of the digests; and it determines matters of daily use, whereas the digests discuss the more abstruse and subtile questions of the law, giving the various opinions of the antient lawyers. Although Justinian's code is distinguished by the appellation of Code, by way of eminence, yet there were codes before his time; such were the gregorian code and hermogenean code, collections of the roman laws made by two famous lawyers, Gregorius and Hermogenes, which included the constitutions of the emperors from Adrian to Dioclesian and Maximinus.

nus. 2. The theodosian code, comprised in sixteen books, formed out of the constitutions of the emperors from Constantine the great to Theodosius the younger: this was observed almost over all the west, till it was abrogated by the justinian code. There are also several later codes, particularly the antient gothic, and those of the french kings, as the Code of Euridic, Code-Lewis, Code-Henry, Code-Marchande, Code des Eaux, &c. and the present king of Prussia has lately published a code, which comprizes the laws of his kingdom in a very small volume.

CODEX, in antiquity, denotes a book or tablet, on which the antients wrote.

It was of the bark of a tree, of ivory, of parchment, or of paper.

CODEX was also a log fastened to the foot of a delinquent slave.

CODIA, among botanists, signifies the head of any plant, but more particularly a poppy-head, whence its syrup is called diacodium.

CODICIL is a writing by way of supplement to a will, when any thing is omitted which the testator would have added, or wants to be explained, altered, or recalled. It is of the same nature with a will or testament, except that it is made without an executor; and one may leave behind him but one will, though as many codicils as he pleases. There is this further difference between a codicil and a testament, that a codicil cannot contain the institution of an heir, and is not subject to the same formalities prescribed by law for solemn testaments. Codicils are always taken as part of the testament, and ought to be annexed to the same; and the executor is bound to see them performed: and in case they are detained from him, he may compel their delivery up, in the spiritual court.

CODLIN, an apple useful in the kitchen, being proper for baking.

CODLING, an appellation given to the cod-fish, when young. See the article COD.

COECUM, in anatomy, the first of the three large intestines, called, from their size, intestina crassa. The coecum is situated at the right os ilium, and resembles a bag, and has a vermiform appendage fixed to it. It begins at the termination of the ilium, and terminates in the bottom of the bag which it forms: its length is not more than three or four finger's breadth. In the appendage, opening into the side of the coecum, there are some glands, which, together with its erect situation, as that is usually the case, seems to shew that some fluid is secreted there. In hens, this is double, as also in many other fowls. In fishes there are frequently a vast number of them; in some species, no less than four hundred, according to Dr. Grew. In man this appendage is, at the utmost, single, and is often wanting. See the articles APPENDICULA and VERMIFORMES.

COEFFICIENTS, in algebra, such numbers, or given quantities, as are put before letters, or unknown quantities, into which letters they are supposed to be multiplied: thus, in $3a$, or bx, or cxx; 3 is the coefficient of $3a$, b of bx, and c of cxx.

When no number is prefixed, unit is supposed to be the coefficient; thus 1 is the coefficient of a or of b.

In a quadratic equation, the coefficient is, according to its sign, either the sum or the difference of its two roots.

In any equation, the coefficient of the second term is always equal to the sum of all the roots, keeping their proper signs.

The coefficient of the third term is the sum of all the rectangles, arising by the multiplication of every two of the roots, how many ways soever these combinations of two can be had, as three times in a cube, six in a biquadratic equation, &c. See the article EQUATION.

The coefficient of the fourth term is the aggregate of all the solids made by the continual multiplication of every three of the roots, how often soever such a ternary may be had, and so on *ad infinitum*.

COEFFICIENTS *of any generating term in fluxions*, is the quantity arising from the division of that term, by the generated quantity.

COELESTIAL, in general, denotes any thing belonging to the heavens: thus we say, coelestial observations, the coelestial globe, &c.

Coelestial observations are those made by astronomers upon the phaenomena of the heavenly bodies, with a suitable apparatus of astronomical instruments, in order to determine their places, motions, phases, &c. The instruments chiefly made use of, in astronomical observations, are the astronomical gnomon, quadrant, micrometer, and telescope. See GNOMON, QUADRANT, &c.

Observations in the day-time are easy, in

in regard the crofs-hairs in the focus of the object-glafs of the telefcope are then diftinctly perceivable: in the night, thofe crofs-hairs are to be illuminated, to make them vifible. This illumination is either performed by a candle placed obliquely near them, fo as the fmoke does not intercept the rays; or where this is inconvenient, by making an aperture in the tube of the telefcope, near the focus of the object-glafs, through which a candle is applied to illumine the crofs-rays.

Obfervations on the fun are not to be made without placing a glafs, fmoked in the flame of a lamp or candle, between the telefcope and the eye.

COELESTIAL GLOBE. See GLOBE.

COELIAC ARTERY, in anatomy, that artery which iffues from the aorta, juft below the diaphragm.

The trunk of this artery is very fhort, and near its origin it fends off from the right fide two fmall diaphragmatic branches, fometimes only one; and is afterwards diftributed into right and left, communicating with other arteries of the fame name, which come from the intercoftal and mammary arteries.

The right branch of this fends the right gaftric and epiploic, the pancreatic and the duodenic, the hepatic and the double cyftic arteries.

The left branch of it fends off the left gaftric and epiploic arteries, the gaftro-epiploic, the great fplenic, and alfo many of the pancreatic arteries.

COELIAC PASSION, in medicine, a kind of flux, or diarrhœa, wherein the aliments, either wholly changed, or only in part, pafs off by ftool.

Dr. Freind fays, that the moft rational and fuccefsful method of treating the cœliac paffion, is to adminifter fuch remedies as gently ftimulate the inteftinal tube, and deterge the obftructed glands: for this purpofe, purges adminiftered in fmall quantities, and frequently repeated, and gentle vomits of ipecacuanha are recommended.

Authors frequently confound the cœliac paffion with the lientery, but they are different. See the article LIENTERY.

COELIAC DIABETES, called alfo cœliaca urinalis, is a diforder wherein the chyle paffes off, along with, or inftead of urine. See the article DIABETES.

COELIAC VEIN, in anatomy, that running through the inteftinum rectum, along with the cœliac artery.

COELOMA, among phyficians, a hollow ulcer feated in the cornea tunica of the eye.

COELUM, HEAVEN. See HEAVEN.

COEMETERY, or CEMETERY, a dormitory or place fet apart or confecrated for the burial of the dead. See the article BURIAL, SEPULCHRE, &c.

Antiently none were buried in churches or church-yards: it was even unlawful to inter in cities; inftead of which they had coemeteries without the walls. Thefe were held in great veneration among the primitive chriftians. The council of Elvira prohibited the burning of torches or tapers, in the day time, in coemeteries. The practice of confecrating coemeteries is of fome antiquity: the bifhop walked round it in proceffion, with the crozier, or paftoral ftaff, in his hand, the holy water-pot being carried before, out of which afperfions were made. In the early ages, the chriftians held their affemblies in the coemeteries, as we learn from Eufebius and Tertullian, the latter of whom calls thofe coemeteries where they met to pray, *areæ*. Valerian feems to have confifcated the coemeteries, and places deftined for divine worfhip, which were reftored again to the chriftians by Gallian: in the refcript of that emperor, which is preferved by Eufebius, coemeteries and places of worfhip are ufed as fynonymous terms. It being here the martyrs were buried, the chriftians chofe thofe places to have churches in, when leave was given them by Conftantine to build. And hence fome derive that rule which ftill obtains in the church of Rome, never to confecrate an altar, without putting under it the relicks of fome faint.

COENOBITE, in church-hiftory, one fort of monks in the primitive chriftian church. They were fo called ἀπὸ τȣ κοινȣ βίȣ, from living in common, in which they differed from the anachorites, who retired from fociety. See ANACHORET.

The cœnobitic life, fays Caffian, took its rife from the times of the apoftles, and was the ftate and condition of the firft chriftians, according to the defcription given of them by St. Luke, in the Acts.

Cœnobite, in a modern fenfe, is a religious who lives in a convent or community, under certain rules.

CO-EQUALITY, among chriftian divines, a term ufed to denote the equality of the three perfons in the trinity. See the article TRINITY.

The

The orthodox maintain, and the arians deny, this co-equality.

COESFELDT, a town of Germany, in the biſhopric of Munſter and circle of Weſtphalia, ſituated on the river Birket, about twenty-three miles weſt of Munſter: eaſt longitude 6° 40′, and north latitude 51° 50′.

CO-ETERNITY, among chriſtian divines, imports the eternal exiſtence of two or more beings: it is chiefly uſed in ſpeaking of the perſons of the trinity.

COEUR, in heraldry, a ſhort line of partition in pale, in the center of the eſcutcheon, which extends but a little way, much ſhort of the top and bottom, being met by other lines, which form an irregular partition of the eſcutcheon. See plate XLIV. fig. 3.

CO-EXISTENCE, the exiſtence of two or more things at the ſame time.

COFFEA, the COFFEE-TREE, in botany, a genus of the pentandria-monogynia claſs of plants, the flower of which conſiſts of a ſingle petal, of an infundibuliform ſhape; the tube is cylindric and ſlender, many times longer than the cup; the limb is plane, longer than the tube, and divided into five ſegments of a lanceolated figure, with their edges bent backwards; the fruit is a round berry, with an umbilicated point; the ſeeds are two, of an elliptico-hemiſpheric figure, gibboſe on one ſide, plane on the other, and wrapped up in a membrane.

For the virtues and properties of this fruit, ſee the next article.

COFFEE, or COFFEE-BERRIES, the fruit of the coffea. See the preceding article.

We have properly two ſpecies of coffee, the one thicker, heavier, and of a paler colour, brought from Mocha; the other is thinner, and generally of a greeniſh caſt, and is brought us from Grand Cairo in Egypt.

Both kinds have the ſame qualities: neither of them has much ſmell, till roaſted, and both are of a farinaceous, leguminous taſte while raw. Coffee is to be choſen firm, ſolid, and large, not eaſily broken, ſufficiently dry, and of no bad ſmell: what is damp or muſty may be ſometimes reduced to a tolerable taſte in roaſting, if not too far gone, but it is never equal to the more perfect kind.

Coffee was wholly unknown to the Greeks, and even to the arabian writers: the earlieſt knowledge of it is about three hundred and fifty years ſtanding, and it has not been uſed above a third part of that time in Europe. Coffee is rather uſed as a food than as a medicine, yet it is ſo much in every one's way, that is, the liquor made of it, that it is proper for people to know, that it is very drying, and therefore in diſorders of the head, from fumes and too great moiſtures, very ſerviceable by its abſorbent qualities: this they muſt experience, who try it after a debauch of wine, or ſtrong liquors. But in thin and dry conſtitutions it is very hurtful, as it dries the nerves too much, and is apt to make them tremble, as in palſies: by the ſame means it promotes watching, by bracing the fibres too tenſe for that relaxation which is neceſſary for ſleep; though in a caſe of extraordinary defluxion of rheum from the glands about the head and ſtomach, in a cold conſtitution, occaſioning a great hindrance from ſleep, coffee, by abſorbing the ſuperfluous, and continually diſtilling rheum, procures ſleep. The coffee is alſo a ſtomachic and aperient: it is found to aſſiſt digeſtion, and to be good againſt flatules; and a cuſtom of drinking it is of great ſervice againſt habitual ſuppreſſions of the menſes: it attenuates and diſſolves the inſpiſſated humours, and always proves diuretic, and ſometimes gently cathartic.

Coffee pays on importation 1 l. 13 s. 6 $\frac{15}{100}$d. the hundred weight; the drawback on exportation is 1 l. 10 s 2 $\frac{25}{100}$d. Upon payment of the above duty, the coffee is to be put into warehouſes, and upon delivery from thence, if to be conſumed in Great Britain, is to pay for every hundred weight 8 l. 8 s. if of the britiſh plantations in America, and 11 l. 4 s. if it comes from any other place.

COFFER, a long ſquare box, of the firmeſt timber, about three feet long, and one and an half broad, wherein tin-ore is broken to pieces in a ſtamping-mill.

COFFER, in architecture, a ſmall depreſſion or ſinking of each interval between the modillions of the corinthian cornice: generally filled up with a roſe, ſometimes with a pomegranate, &c.

COFFER, in fortification, a hollow lodgment athwart a dry moat, from ſix to ſeven feet deep, and from ſixteen to eighteen broad, the upper part being made of pieces of timber, raiſed two feet above the level of that moat, which little elevation has hurdles, laden with earth, for its covering, and ſerves as a parapet with embraſures.

The beſieged generally make uſe of theſe coffers

coffers to repulse the besiegers, when they attempt to pass the ditch: they are distinguished only by their length from the caponiers, which are likewise somewhat less in breadth; and it differs from the traverse and gallery, in that these are made by the besiegers, and the coffer by the besieged. To save themselves from the fire of these coffers, the besiegers epaule, or throw up the earth, on that side towards the coffer.

COFFERER *of the king's houshold*, a principal officer in the court, next under the comptroller, who, in the compting-house, and elsewhere at other times, has a special charge and oversight of other officers of the house, for their good demeanor and charge in their offices, to all which he pays their wages.

COFFIN, in a general sense, a wooden box or trunk, into which the bodies of dead persons are put, in order for burial.

COFFIN, in the manege, the whole hoof of a horse's foot, above the cronet, including the coffin-bone; the sole, and the frush.

COFFIN-BONE is a small spongy bone, inclosed in the midst of the hoof, and possessing the whole form of the foot.

COGITATION, a term used by some for the act of thinking. See THINKING.

COGNATION, in the civil law, a term for that line of consanguinity, which is between males and females, both descended from the same father; as agnation is for the line of parentage between males only descended from the same stock.

In France, for the succession to the crown, they follow agnation; in England, Spain, &c. cognation: women coming to the succession according to the degreee of proximity, in default of males, or their descendants, from branch to branch.

COGNI, the capital of Caramania, in the lesser Asia, antiently called Iconium, about two hundred and fifty miles south-east of Constantinople: east longitude 33°, and north latitude 38°.

COGNISE'E, or CONNUSE'E, in law, is the person to whom a fine of lands, &c. is acknowledged, &c.

COGNISOR, or CONNUSER, is he that passeth or acknowledgeth a fine of lands and tenements to another.

COGNITIONIBUS MITTENDIS, in law, a writ directed to any of the king's justices of the common pleas, who, having a power to take fines, actually takes them, but neglects to certify them, commanding him to certify the same.

COGNIZANCE, or COGNISANCE, in heraldry. See the article CREST.

COGNIZANCE, or CONUSANCE, in law, has divers significations: sometimes it is an acknowledgement of a fine, or confession of something done; sometimes the hearing of a matter judicially, as to take cognizance of a cause; and sometimes a particular jurisdiction, as cognizance of pleas is an authority to call a cause or plea out of another court, which no person can do but the king, except he can shew a charter for it. This cognizance is a privilege granted to a city or town, to hold plea of all contracts, &c. within the liberty; and if any one is impleaded for such matters in the courts at Westminster, the mayor, &c. of such franchise may demand cognizance of the plea, and that it be determined before them.

COGNIZANCE is also used for a badge on a waterman's or serving-man's sleeve, which is commonly the giver's crest, whereby he is discerned to belong to this or that nobleman, or gentleman.

COGNOMEN, in roman antiquity, the third or family name of a person. See the article AGNOMEN.

COGNOVIT ACTIONEM, in law, is where a defendant acknowledges the plaintiff's cause against him to be true, and, after issue joined, suffers judgment to be entered against him, without a trial.

COGS, or COGGLES, a kind of flat-bottomed boats used in rivers.

CO-HABITATION, among civilians, denotes the state of a man and a woman who live together like husband and wife, without being legally married.

By the common law of Scotland, co-habitation for year and day, or a complete twelve-month, is deemed equivalent to matrimony.

CO-HEIR, one who succeeds to a share of an inheritance, to be divided among several.

Female co-heirs are, by the law of England, called coparceners. See the article CO-PARCENERS.

COHESION, in philosophy, that action by which the particles of the same body adhere together, as if they were but one.

The cause of this cohesion has extremely perplexed the philosophers of all ages. In all the systems of physics, matter is supposed, originally, to consist of minute indivisible atoms; but how, and by what principle these several and distinct corpuscles should come first combined into little systems, and how they should come to persevere in that state of union, is a point not yet determined: a point of the greatest

greateſt difficulty, and even of the greateſt importance of any in phyſics. J. Bernoulli thinks it owing to the preſſure of the atmoſphere; others, to the figure of the component particles; but the generality, with Sir Iſaac Newton, to attraction. See the article ATTRACTION.

Inſtead, however, of entertaining our readers with refined ſpeculations of this kind, which are more curious than uſeful, we ſhall ſubjoin a table of the different force of coheſion in different bodies, as aſcertained by the ingenious Muſchenbroeck: this force he eſtimated by the weights required to pull them aſunder, drawing according to their length: the pieces of wood were of a long ſquare form, of which each ſide was $\frac{26}{100}$ of an inch; and his experiments upon metals were made by ſuſpending weights to wires of each ſort, whoſe diameter was $\frac{1}{10}$ of a rhinland inch, or $\frac{135}{1390}$ of an inch engliſh. The reſult of all which experiments may be ſeen in the following table.

Bodies to be drawn aſunder.	Weights capable of doing it.
Wood of the linden-tree	1000 lb
of alder	1000
of fir	600
of oak	1150
of elm	950
of beech	1250
of aſh	1250
Copper	$299\frac{1}{4}$
Yellow braſs	360
Gold	500
Silver	370
Iron	450
Tin	$40\frac{1}{4}$
Lead	$29\frac{1}{4}$

Theſe were the different forces of coheſion in bodies, when pulled length-ways: and in order to try their tranſverſe coheſion, or when the force acted in a direction perpendicular to their length, he fixed one of the ends of the ſame pieces of wood as before, into a ſquare hole of a metal-plate, and then hung weights on the other end, ſufficient to break each piece at the ſaid hole. Theſe weights, and diſtances from the hole, were as follows:

Pieces of wood.	Diſtances.	Weights.
Fir	9 inches.	40 oz.
Oak	$8\frac{1}{2}$	48
Elm	9	44
Pine	$9\frac{1}{2}$	$36\frac{1}{2}$
Alder	$9\frac{1}{4}$	48
Beech	7	$56\frac{1}{2}$

COHOBATION, in chemiſtry, the returning a liquor diſtilled from any ſubſtance, back upon the ſame ſubſtance, and diſtilling it again, either with or without an addition of freſh ingredients.

The deſign of this operation is to procure the united virtues of any ſubſtance in their utmoſt ſtrength. Cohobated waters are much extolled by Boerhaave.

COHORT, *cohors*, in roman antiquity, the name of a part of the roman legion, comprehending about ſix hundred men. There were ten cohorts in a legion, the firſt of which exceeded all the reſt, both in dignity and number of men. When the army was ranged in order of battle, the firſt cohort took up the right of the firſt line, the reſt followed in their natural order, ſo that the third was in the center of the firſt line of the legion, and the fifth on the left, the ſecond between the firſt and third, and the fourth between the third and fifth: the five remaining cohorts formed a ſecond line, in their natural order.

COIF, the badge of a ſerjeant at law, who is called ſerjeant of the coif, from the lawn-coif they wear under their caps when they are created ſerjeants.

The uſe of the coif was to cover the clerical tonſure. See the article TONSURE.

COIL, or QUOIL. See the article QUOIL.

COILING *of the ſtud*, the firſt chooſing of a colt for any ſervice.

COILON, κοιλον, in the antient grecian theatres, the ſame with the cavea of the Romans. See the article CAVEA.

COIMBRA, a large city of Portugal, in the province of Beira, ſituated on the river Mondego, about ninety-ſix miles north of Liſbon: weſt longitude 9°, and north latitude 40° 20′.

COIN denotes all manner of the ſeveral ſtamps and ſpecies of money in any nation. In earlier times, when the neceſſity of traffic put men upon the expedient of having money; and metals, on account of their firmneſs, cleanlineſs, and durableneſs, were pitched upon to ſerve the end; each perſon cut his metal into pieces of different ſizes and forms, according to the quantity to be given for any merchandize, or according to the demand of the ſeller, or the quantity ſtipulated between them. It was uſual then to go to market laden with metal, in proportion to the purchaſe to be made; and furniſhed with inſtruments for proportioning it, and with ſcales for dealing it out, according as occaſion required. By de-

degrees it was found more convenient to have pieces ready weighed; and as there were different weights required, all thoſe of the ſame weight were diſtinguiſhed with the ſame mark or figure. At length the growing commerce of money beginning to be diſturbed with frauds, both in the weights and the matter, the public authority interpoſed, and hence aroſe the firſt ſtamps, or impreſſions of money, to which ſucceeded the names of the moneyers, and at length the effigies of the prince, the date, legend, and other precautions, to prevent the alteration of the ſpecies: thus were coins completed.

We hope the reader will not be diſſatisfied to find here tables of the moſt remarkable coins, both antient and modern. We ſhall begin with the antient.

The Jewiſh Coins, and values in engliſh money, are as follow.

						l.	s.	d.	
Gerah						0	0	1	$\frac{59}{100}$
10	Bekah					0	1	1	$\frac{11}{16}$
20	2	Shekel				0	2	3	$\frac{3}{38}$
1000	100	50	Maneh, Mina hebraica			5	14	0	$\frac{3}{4}$
60000	6000	3000	60	Talent		342	3	9	
Solidus aureus, or ſextula, worth						0	12	0	$\frac{1}{2}$
Siclus aureus, worth						1	16	6	
A talent of gold, worth						5475	0	0	

The Grecian Coins, with their value and proportion.

											l.	s.	d.	q.	
Lepton											0	0	0	0	$\frac{31}{336}$
7	Chalcus										0	0	0	0	$\frac{31}{48}$
14	2	Dichalcus									0	0	0	1	$\frac{7}{24}$
28	4	2	Hemiobolium								0	0	0	2	$\frac{14}{24}$
56	8	4	2	Obolus							0	0	1	1	$\frac{1}{6}$
112	16	8	4	2	Diobolum						0	0	2	2	$\frac{1}{3}$
224	32	16	8	4	2	Tetrobolum					0	0	5	0	$\frac{2}{3}$
336	48	24	12	6	3	1½	Drachma				0	0	7	3	
672	96	48	24	12	6	3	2	Didrachmon			0	1	3	2	
1344	192	96	48	24	12	6	4	2	Tetradrach. ſtater		0	2	7	0	
1680	240	120	60	30	15	7½	5	2½	1¼	Pentadrach	0	3	2	3	

Of theſe the drachma, didrachma, &c. were of ſilver, the reſt, for the moſt part, of braſs. The grecian gold coins were the ſtater aureus, worth twenty-five attic drachms of ſilver; the ſtater cyzicenus, ſtater philippicus, and ſtater alexandrinus, worth twenty-eight drachms; and the ſtater daricus, according to Joſephus, worth fifty attic drachms; and the ſtater crœſius of the ſame value.

The value of the Roman Coins.

						s.	d.	q.	
Teruncius						0	0	0	$\frac{775}{1000}$
2	Semilibella					0	0	1	$\frac{55}{100}$
4	2	Libella, or As				0	0	3	$\frac{1}{10}$
10	5	2½	Seſtertius			0	1	3	$\frac{3}{4}$
20	10	5	2	Quinarius / Victoriatus		0	3	3	$\frac{1}{2}$
40	20	10	4	2	Denarius	0	7	3	

Of theſe the denarius, victoriatus, ſeſtertius, and ſometimes the as, were of ſilver, the reſt of braſs. The roman gold coin was the aureus, which weighed generally double the denarius, the value of which, according to the firſt proportion of coinage mentioned by Pliny, was worth

	l.	s.	d.
according to the firſt proportion of coinage mentioned by Pliny, was worth	1	4	3 $\frac{3}{4}$
According to the proportion that obtains among us, worth	1	0	9
According to the decuple proportion, mentioned by Livy and Julius Pollux, worth	0	12	11
According to the proportion mentioned by Tacitus, and which afterwards obtained, whereby the aureus exchanged for 25 denarii, its value is	0	16	1 $\frac{1}{4}$

It muſt be obſerved, that in all theſe tables of antient coins, ſilver is reckoned at five ſhillings, and gold at four pound the ounce.

Modern coins, current in the four quarters of the earth at this day, are either made of metals, or they are ſhells and fruits. The metals are gold, ſilver, copper, tin, and lead, to which may be added billon, a mixture of ſilver and copper in a certain proportion.

In Europe none are uſed beſide gold, ſilver, copper, and billon: in ſome parts of the Eaſt-Indies they likewiſe uſe tin and lead: as to ſhells and fruits, they are the ſmall money of ſeveral nations in Aſia, Africa, and America.

Britiſh COINS. In England, the current ſpecies of gold are the guinea, half guinea, jacobus, laureat, angel, and roſe-noble; the four laſt of which are are now ſeldom met with, having been moſtly converted into guineas, chiefly during the reigns of Charles II. and James II. The ſilver coins are the crown, half crown, ſhilling, and ſix-pence: there are likewiſe penny, two-penny, three-penny, and groat pieces in ſilver.

The copper coins are the halfpenny and farthing.

Value and proportion of the Engliſh COINS.

Farthing							
2	Halfpenny						
4	2	Penny					
48	24	12	Shilling				
120	60	30	$2\frac{1}{2}$	Half crown			
240	120	60	5	2	Crown		
960	480	240	20	8	4	Pound, accompt	
1008	504	252	21	$8\frac{2}{5}$	$4\frac{1}{5}$	$1\frac{1}{20}$	Guinea
			25	10	5	$1\frac{1}{4}$	Jacobus
			23	$9\frac{1}{5}$	$4\frac{3}{5}$		Carolus, or Laureat.

In Scotland, by the articles of the union, it is appointed that all the coins be reduced to the engliſh, and the ſame accompts be obſerved throughout the whole iſland. Till then, the Scots had their pounds, ſhillings, and pence as in England; but their pound was but twenty-pence engliſh, and the others were in proportion; accordingly their mark was 13 s. 4 d. ſcots, current in England at 13½ d. their noble in proportion.

Beſide theſe they had their turnorer, pence, and halfpence; their penny $\frac{1}{12}$ of that of England: beſides baſe money of achiſons, babees, and placks; the bodle $\frac{1}{6}$ of the penny, $\frac{1}{4}$ of the achiſon, $\frac{1}{3}$ of the babee, and $\frac{1}{2}$ of the plack.

In Ireland the coins are as in England, *viz.* guineas, ſhillings, *&c.* with this difference, that the engliſh ſhilling paſſes for twenty-ſix halfpence, which are the only coin peculiar to that country.

French COINS. The only gold-coin now current in France is the Louis d'or, with its diviſions, which are half and quarter, and its multiples, which are the double and quadruple louis: till the year 1700, they had gold-lys and ecus or crowns; but they are now no more. The ſilver-coins are the ecu and the grand ecu of ſix livres; pieces of twenty-four ſols, of twelve ſols, and of ſix ſols. The billon-coins are of two kinds, each called ſols, ſome of fifteen deniers, others of twenty-one: to theſe may be added the deniers current in the Lionois, Provence, Dauphiny, and other parts. Laſtly, the copper-coin is the liard, equal to three deniers, and is ordinarily called the double.

Value and proportion of the French COINS.

						l.	s.	d.
Denier, equal to $\frac{1}{6}$ of a farthing ſterling								
2	Double							
3	$1\frac{1}{2}$	Liard						
12	6	4	Sol Paris is equal nearly to			0	0	$0\frac{1}{2}$
240	120	80	20	Livre, accompt		0	0	$10\frac{1}{2}$
720	360	240	60	3	Ecu	0	2	$7\frac{1}{2}$
The old Louis d'or is valued at						0	16	9.3
The new Louis d'or at						1	0	0.6

Spaniſh COINS. In Spain, and the ſtates depending upon it, the gold-coin is the piſtole; above which is the double piſtole and piece of four piſtoles, and under it the half piſtole; to which muſt be added the caſtilians of gold. The ſilver-money are the piaſtre, or piece of eight rials, and its diminutions; as alſo the ſimple rial, with its diminutions. The copper-coins are the ochavos, or octavos, which are of two kinds, the one equal to four maravedis, and ordinarily called quartos; the

the other double this, and called double quarta: and laftly, the maravedis. It muft be obferved, that in Spain they have new money and old; the old current in Sevil, Cadiz, Andalufia, *&c.* is worth 25 *per cent.* more than the new current at Madrid, Bilboa, St. Sebaftian, *&c.* This difference is owing to their king Charles II, who, to prevent the exportation of money, raifed it 25 *per cent.* which, however, he was able to effect only in part, feveral provinces ftill retaining the antient rate.

Value and proportion of the Spanifh COINS.

Quarta, 4 maravedis
Octavo, or double quarta, 8 maravedis

	l.	s.	d.
Real old Plata, equal to	0	0	6 ¾
Piece of eight, or piaftre	0	4	6
Piftole	0	16	9.3

Portuguefe COINS. Thofe of gold are the milleray or St. Stephen, and the moeda d'oro, or, as we call it, moidore, which is properly their piftole; above this are doppio moedas or double piftoles, and quadruple fpecies equal to five piftoles. The filver coins are the cruzada, pataca or piece of eight, and the vintem, of which they have two forts, the one filver and the other billon. The ree is of copper, which ferves them in accompts as the maravedis does the Spaniards.

Res, ree, or rez, equal to three-fifths of a farthing fterling.
Vintem, 20 res.
Cruzada, 26 vintems.

	l.	s.	d.
Mi-moeda, or half piftole	0	13	6
Moeda d'oro, or piftole	1	7	0
Doppio moeda, or double piftole	2	14	0
Ducat of fine gold	6	15	0

Befides the above, they have alfo pieces of gold of the value of 3 l. 12 s. 1 l. 16 s. and other fubdivifions.

Dutch COINS. Thofe of filver are crowns or dollars, ducatoons, florins, and fhillings, each of which has its diminution. The ftiver is of billon; the duyt and penny, of copper.

	l.	s.	d.
Ducat of Holland	0	9	3 .2
Ducatoon	0	5	5 .59
Patagon, or rix dollar	0	4	4 .28
The three-guilder piece, or fixty ftivers	0	5	2 .46
The guider-florin, or twenty ftivers	0	1	8 .08
The lion dollar	0	3	7 .07

The fchelling goes for fix ftivers, and the ortke is the fourth part of a ftiver.

Flemifh COINS. Thofe of gold are imperials, rides or philips, alberts, and crowns; thofe of filver are philips, rixdollars, patagons, fchellings, and guldens; and thofe of copper, patards.

	l.	s.	d.
Groat, 8 patards.			
Single ftiver	0	0	1 ⅛
Schelling	0	0	7 ½
Gulden	0	2	0
Rixdollar, dollar, patagon	0	4	6
Imperial	0	11	9

The german, dutch, and french coins are current here.

German COINS. Thofe of gold are ducats, which are of various kinds, oboli of the Rhine, and florins: of this laft kind there are fome likewife of filver, befides rixdollars and izelottes, which are all of that metal.

	s.	d.
Ducat of the bifhop of Bamberg	9	3 .2
Ducat of Hanover	9	2 .7
Ducat of Brandenburg	9	3 .2
Ducatoon of Cologn	5	5 .02
Rixdollar or patagon of Cologn	4	4 .53
Rixdollar or patagon of Liege	4	7 .48
Rixdollar of Mentz	4	7 .27
Rixdollar of Frankfort	4	6 .53
Rixdollar of the Palatinate and Nuremberg	4	7 .55
Rixdollar of Lunenburg	4	6 .65
Old rixdollar of Hanover	4	7 .03
Old bank dollar of Hamburgh	4	6 .92
Rixdollar of Lubec	4	7 .54
Gulden of Hanover	2	4 .14
Gulden of Zell.	2	3 .07
Gulden of Brandenburg	2	3 .81
Gulden of Saxony	2	4 .12

Italian COINS. The feveral ftates of Italy have feveral current monies, though there are fome common to all, fuch as the piftole of gold, and the ducatoon and florin of filver, which are of various weights, finenefs, *&c.* The coins peculiar to Rome are the julios of filver, the pignatelle of billon, and the baiocco, demibaiocco, and quadrine of copper. Venice has its fequins of gold; its juftins, or ducatoons, and derlingues of filver. Naples its carlins, Genoa its croifats, Savoy and Piedmont its lys; all filver: this laft ftate has alfo papiroles and cavales of billon.

Gold coins of Italy.

	s.	d.
The fequin of Venice	9	5 .7
The old italian piftole	16	7 .6
Piftole of Rome, Milan, Venice, Florence, Savoy, Genoa	16	6 .7

Double

	s.	d.
Double ducat of Genoa, Venice, and Florence	18	7 .7
Single ducat of the ſame places	9	3 .8
Silver Coins.		
The old ducat of Venice	3	4 .50
The ducat of Naples	3	4 .43
The ducat of Florence or Leghorn	5	4 .62
The tarin, or fifth part of the ducat of Naples	0	8 .09
The carlin, or tenth part	0	4 .04
The eſcudi, or crown, of Rome, or piece of ten julios, or one hundred baioccos	5	2
The teſton of Rome, or piece of three julios	1	6 .32
The julio of Rome	0	6 .10
The croiſat of Genoa	6	6 .74
Juſtine of Venice	4	9
Derlingue, $\frac{1}{4}$ of the juſtine	1	2 $\frac{1}{4}$

Swiſs Coins are ratzes and blazes of billon; the ratze equal to $\frac{28}{32}$ of a penny ſterling: and the blaze of Berne, nearly equal to the ratze.

The german, french, and italian coins are current here.

Poliſh Coins	s.	d.
The gold ducat	9	2 .1
The old ſilver dollar of Dantzic	4	6 .27
The old rixdollar of Thorn	4	5 .85
The rixdollar of Sigiſmund III. and Uladiſlaus IV. kings of Poland	4	6 .4
Abra	1	0 $\frac{1}{5}$
Roup	0	4 $\frac{3}{4}$
Groch	0	0 $\frac{5}{6}$

Daniſh Coins are,	s.	d.
The gold ducat	9	3 .2
The horſe	1	1 $\frac{1}{2}$
The four-mark piece	2	8 .23
Marc lubs	1	6
Scheſdal, or two marks	3	0
Rix mark	0	11
Slet mark	0	9

Swediſh Coins. Thoſe of copper are the rouſtique, alleuvre, mark, and money.

	s.	d.
A gold ducat is equal to	9	3 .2
An eight-mark piece of ſilver	5	2
A four mark piece	2	7
A chriſtine	1	1 $\frac{1}{2}$
Caroline	1	5 $\frac{1}{4}$

The ſwediſh money, properly ſo called, is a kind of copper, cut in little ſquare pieces, or plates, about the thickneſs of three engliſh crowns, and weighing five pounds and a half, ſtamped at the four corners with the ſwediſh arms, and current in Sweden for a rixdollar, or piece of eight.

Muſcovite Coins. The proper coins of Muſcovy are,

	s.	d.
The copec of gold, worth	1	6 $\frac{1}{11}$
Copec of ſilver, or denaing	0	1
Poluſk	0	0 $\frac{1}{2}$
Motoſske	0	0 $\frac{1}{4}$
The ruble of ſilver, valued at	4	6
The cheroonitz of gold, called ducat by foreigners	9	6

Turkiſh Coins. The gold-coins are zingerlees, worth two dollars two thirds; and tomilees, worth two dollars and a half, reckoning each dollar at 108 aſpers: the ſultani, xeriff, and chequeens, each worth about 9 s. 4 d. 5 d. or 6 d. ſterling.

The ſilver ones are the aſper, worth a trifle more than a farthing ſterling; and the para, or medin, worth three aſpers.

Coins *of the coaſt of Barbary.* Though the general currency in theſe parts are ſpaniſh dollars, french crowns, hungarian ducats, and the turkiſh golden ſultanins, there are ſome coins ſtruck by the kings or deys in their different territories.

At Morocco, the metacals are a ſort of gold ducats, made by the Jews at their pleaſure, ſo that their ſtandard is very uncertain.

The blanquille of ſilver, worth 2 $\frac{1}{2}$d. the flours of copper, eight of which go to a blanquille.

At Algiers the gold-coins are ſultanins and aſpers; burbas, of which ſix go to an aſper. The doubla is ſilver, and worth about 4 s. 6 d. The rubie, median, and zian are of gold, the firſt equal to 35 aſpers, or 1 s. 9 d. and the laſt 100 aſpers.

At Tunis they have ſultanins of gold, but heavier by one third than thoſe of Conſtantinople: the naſura of ſilver, cut nearly ſquare; and doublas and burbas of the ſame value with thoſe of Algiers.

Perſian Coins are either of ſilver or copper; of the firſt kind are the

	s.	d.
Abaſſi, equal to	1	4 $\frac{1}{2}$
Mamoudi	0	8 $\frac{1}{4}$
Shakee	0	4 $\frac{1}{8}$

Copper coins are the caſbequi, or cabeſqui, equal to $\frac{5}{12}$ of a penny ſterling. The telac, or cheraſis, is of gold, but it has no currency among the merchants, being only a medal ſtruck by every king of Perſia upon his acceſſion to the crown.

Chineſe

Chineſe COINS. Throughout the kingdom of China and Tonquin there are not properly any coins ſtruck; inſtead of theſe they cut their gold and ſilver into little pieces of different weights: thoſe of gold are called goltſchuts; thoſe of ſilver the natives call leam, the Portugueſe taels. Beſide theſe they have a ſmall money of lead mixed with the ſcum of copper, having holes in the middle to ſtring them on for the eaſe of numbering; this ſpecies is called caxa, cas, and pitis; and the ſtring which uſually holds 200, is called ſanta. There are two ſorts of goltſchuts, the one of 32 $\frac{1}{7}$ ounces, and the other but half as much. The tael, or leam, is equal to 6 s. 8 d. ſterling. Caxa, cas, or pitis, one third of a farthing; 300,000 of them are only worth about 56 guilders and 5 ſtivers of Holland.

COINS *of Japan.* The Japoneſe ſtrike coupants both of gold and ſilver; and copper pieces with holes in the middle, like thoſe of China, ſix hundred of which make the tael. The other monies, which they cut, like the Chineſe, of different weights, are chiefly three, the largeſt of the weight of ſix reals, *viz.* 48 taels, the tael equivalent to 75 dutch ſtivers; the ſecond equal to 6 $\frac{1}{2}$ taels, and the third to 1$\frac{1}{16}$ tael.

Coupant of gold, weighing one ounce ſix drachms, its figure a long oval, the longeſt diameter about four inches, and the ſhorteſt half an inch, 6 l. 12 s. 6 d.

Other coupants of gold, near one third of the former, amounting to about 2 l. 4 s. 2 d. Coupant of ſilver current at 4 s. 6 d.

Copper money ſeven twelfths of a farthing.

COINS *of Siam.* In the dominions of Siam are ſtruck gold pieces five or ſix grains heavier than the half piſtole of Spain: but theſe are rather pieces of curioſity, than of uſe in commerce. Their ſilver coin is the tical or baat, the diminutions of which are the mayon or ſeling, $\frac{1}{4}$ of the tical; the fouang, $\frac{1}{2}$ of the mayon; the page, $\frac{1}{4}$ of the fouang; and clam, $\frac{1}{2}$ of the page: here are alſo ſompays, in value $\frac{1}{2}$ a fouang. The tical weighs 3 gros and 23 grains, which, reckoning the ounce of ſilver 3 $\frac{1}{2}$ livres tournois, is 32 ſols and 4 deniers that money, as it weighs near half an ounce.

COINS *of the coaſts and iſlands of the Indies.* The principal, and thoſe moſt generally current, are pagodos, rupees, larins, fanos, or fanoms, and coupans, each of which are ſtruck both of gold and ſilver. Beſides theſe, there are alſo particular coins, as at Goa, St. Thomas's of gold; at Surat, Agra, and the reſt of Indoſtan, the pecha, or peſſa, and doudous, all of copper; the baſarucos and chedas, of tin.

Pagodo, gold, is common on all the coaſts of Coromandel, and almoſt the only one in uſe in the trade carried on there. The Engliſh make them at Fort St. George, and the Dutch at Nagapatnam, of the ſame ſtandard and weight with thoſe of the country. The value, 5 *s.*

The value of the ſilver pagodo is very different: the ſmalleſt are worth eight tangas, reckoning the tanga at 90 or 100 baſarucos, 8 *s.*

Gold rupee worth 1 *l.* 11 *s.* 6 *d.*

Silver rupee varies in fineneſs and value. There are three kinds current, *viz.* rupee ſicca, worth at Bengal 2 *s.* 11 *d.*

Rupee of Madraſs, 2 *s.* 5 *d.* $\frac{1}{2}$ *d.*

Rupee of Surat, 2 *s.* 3 *d.*

This is to be underſtood of the new rupees; for as to the old ones of each kind, their value is leſs; thoſe of Madraſs are but equal to 1 *s.* 11 *d.* thoſe of Surat 2 *s.* and the ſiccas 2 *s.* 4 *d.*

Larin, in form of a cylindar, bent in two, and flatted at each end, worth 9 *d.*

Fanoms of gold are of different fineneſs, weight and value. The heavieſt are not worth above 5 *d.* to 5 $\frac{1}{2}$ *d.* and the lighteſt little more than 5 farthings.

The ſilver fanoms are not worth at moſt above 2 *d.*

St. Thomas equal to 9 *s.*

Pecha or peſſa of copper worth about $\frac{1}{2}$ *d.*

Doudou, ſomewhat leſs than $\frac{1}{2}$ *d.*

Baſaruco, $\frac{1}{5}$ of a farthing.

Cheda of pewter is of two kinds, the one octogonal, current at 1 $\frac{1}{2}$ *d.*

The other round, at $\frac{1}{3}$ *d.*

In the dominions of the great mogul are roupees, mamoudas, and pechas; the firſt, both of gold and ſilver; the ſecond, of ſilver alone; and the third of copper. There are others ſtruck by the princes tributary to him, particularly a ſilver piece of the king of Matoucha, worth $\frac{1}{2}$ *d.* a ſilver piece of the king of Ogden, worth 6 *d.* a gold piece of the king of Achem, worth 1 *l.* 3 *s.* a gold piece of the king of Macaſſer, taken by the Dutch for a guilder.

Shells current for COINS are, 1. Cowries, brought from the Maldives, and paſs for $\frac{1}{130}$ of a penny ſterling. The natives of the

the coasts of Africa call them bouges. 2. Porcelaine, in America, a shell nearly on the same footing with the cowrie. 3. Zimbi, current particularly in the kingdoms of Angola and Congo.

Fruits current for COINS, are, 1. Cacao, among the Americans, fifteen of which are esteemed equivalent to a spanish rial. 2. Maiz, which has ceased to be current since the discovery of America by the Europeans. 3. Almonds, used in the East-Indies where cowries are not current. The value of these is higher or lower, according as the year is more or less favourable to this fruit; in a common year, an almond is worth about $\frac{1}{20}$ of a farthing.

COIN, in architecture, a kind of dye cut diagonal-wise, after the manner of a flight of a stair case, serving at bottom to support columns in a level, and at top, to correct the inclination of an entablature supporting a vault.

COIN is also used for a solid angle composed of two surfaces inclined towards each other, whether that angle be exterior, as the coin of a wall, a tree, *&c.* or interior, as the coin of a chamber or chimney. See the article QUOIN.

COINAGE, or COINING, the art of making money, as performed either by the hammer or mill.

Formerly the fabric of coins was different from what it is at present. They cut a large plate of metal into several little squares, the corners of which were cut off with sheers. After having shaped these pieces, so as to render them perfectly conformable, in point of weight, to the standard piece, they took each piece in hand again, to make it exactly round, by a gentle hammering. This was called a planchet, and was fit for immediate coining. Then engravers prepared, as they still do, a couple of steel masses in form of dyes, cut and terminated by a flat surface, rounded off at the edges. They engraved or stamped on it the hollow of a head, a cross, a scutcheon, or any other figure, according to the custom of the times, with a short legend. As one of these dyes was to remain dormant, and the other moveable, the former ended in a square prism, that it might be introduced into the square hole of the block, which, being fixed very fast, kept the dye as steady as any vice could have done. The planchet of metal was horizontally laid upon this inferior mass, to receive the stamp of it on one side, and that of the upper dye, wherewith it was covered, on the other. This moveable dye, having its round engraved surface resting upon the planchet, had at its opposite extremity a flat square, and larger surface, upon which they gave several heavy blows, with a hammer of an enormous size, till the double stamp was sufficiently, in relievo, impressed on each side of the planchet. This being finished, was immediately succeeded by another, and they thus became a standard coin, which had the degree of fineness, the weight and mark, determined by the judgment of the inspectors, to make it good current money. The strong tempering which was and is still given to the two dyes, rendered them capable of bearing those repeated blows.

Coining has been considerably improved and rendered expeditious, by several ingenious machines, and by a wise application of the surest physical experiments to the methods of fining, dying, and stamping the different metals.

The three finest instruments the mintman uses, are the laminating engine, the machine making the impressions on the edges of coins, and the mill.

After they have taken the laminæ, or plates of metal, out of the mould into which they are cast, they do not beat them on the anvil, as was formerly done, but they make them pass and repass between the several rollers of the laminating engine, which being gradually brought closer and closer to each other presently give the lamina its uniform and exact thickness. Instead of dividing the lamina into small squares, they at once cut clean out of it as many planchets, as it can contain, by means of a sharp steel trepan, of a roundish figure, hollow within, and of a proportionable diameter, to shape and cut off the piece at one and the same time. After these planchets have been compared and weighed with standard pieces, filed or scraped to get off the superfluous part of the metal, and then boiled and made clean, they arrive, at last, at the machine, (plate XLIV. fig. 4. n°. 1.) which marks them upon the edge; and finally, the mill, (*ibid.* N°. 2.) which, squeezing each of them singly between the two dyes, brought near each other with one blow, forces the two surfaces or fields of the piece to fill exactly all the vacancies of the two figures engraved hollow. The engine which serves to laminate lead, gives a sufficient notion

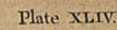


Fig. 1. CNICUS.

Fig. 2. COCHLEÆ.

Fig. 3. COEUR.

Fig. 4. COINING No. 1.

Fig. 5. COLYMBUS.

No. 2.

No. 3.

T. Jefferys sculp.

motion of that which ferves to flaten gold and filver laminæ between rollers of a leffer fize.

The principal pieces of the machine (N° 1.) to ftamp coins on the edge, are two fteel laminæ, about a line thick. One half of the legend, or of the ring, is engraved on the thicknefs of one of the laminæ, and the other half on the thicknefs of the other; and thefe two laminæ are ftraight, although the planchet marked with them be circular.

When they ftamp a planchet, they firft put it between the laminæ in fuch a manner, as that thefe being each of them laid flat upon a copper plate, which is faftened upon a very thick wooden table, and the planchet being likewife laid flat upon the fame plate, the edge of the planchet may touch the two laminæ on each fide, and in their thick part.

One of thefe laminæ is immoveable, and faftened with feveral fcrews; the other flides by means of a dented wheel, which takes into the teeth that are on the furface of the laminæ. This fliding lamina makes the planchet turn in fuch a manner, that it remains ftamped on the edge, when it has made one turn. Only crown and half-crown pieces can bear the impreffion of letters on the thicknefs of their edges.

The coining engine or mill is fo handy (*ibid.* n°. 2.) that a fingle man may ftamp twenty thoufand planchets in one day: gold, filver, and copper planchets, are all of them coined with a mill, to which the coining fquares (*ibid* n°. 3.) commonly called dyes, are faftened; that of the face under, in a fquare box garnifhed with male and female fcrews, to fix and keep it fteady; and the other above, in a little box garnifhed with the fame fcrews, to faften the coining fquare. The planchet is laid flat on the fquare of the effigy, which is dormant, and they immediately pull the bar of the mill by its cords, which caufes the fcrew fet within it to turn; This enters into the female fcrew, which is in the body of the mill, and turns with fo much ftrength, that by pufhing the upper fquare upon that of the effigy, the planchet, violently paffed between both fquares, receives the impreffion of both at one pull, and in the twinkling of an eye.

The planchet thus ftampt and coined, goes through a final examination of the mint-wardens, from whofe hands it goes into the world.

In the COINING *of medals*, the procefs is the fame, in effect, with that of money; the principal difference confifting in this, that money having but a fmall relievo, receives its impreffion at a fingle ftroke of the engine; whereas for medals, the height of their relievo makes it neceffary that the ftroke be repeated feveral times: to this end, the piece is taken out from between the dyes, heated, and returned again; which procefs in medallions and large medals, is repeated fifteen or twenty times before the full impreffion be given: care muft be taken that every time the planchet is removed, to take off the fuperfluous metal, ftretched beyond the circumference, with a file. Medallions, and medals of a high relievo, are ufually firft caft in fand, by reafon of the difficulty of ftamping them in the prefs, where they are put only to perfect them; in regard the fand does not leave them clear, fmooth, and accurate enough. Therefore we may fee that medals receive their form and impreffion by degrees, whereas money receives them all at once.

Britifh COINAGE, both by the beauty of the engraving, and by the invention of the impreffions on the edges, that admirable expedient for preventing the alteration of the fpecies, is carried to the utmoft perfection.

It was only in the reign of king William III. that the hammer-money ceafed to be current in England, where till then it was ftruck in that manner, as in other nations. Before the hammer fpecies was called in, the englifh money was in a wretched condition, having been filed and clipped by natives as well as foreigners, infomuch, that it was fcarce left of half the value: the retrieving this diftreffed ftate of the englifh money, is looked upon as one of the glories of king William's reign.

The britifh coinage is now wholly performed in the Tower of London, where there is a corporation for it, under the title of the mint. Formerly there were here, as there are ftill in other countries, the rights of feignorage and braffage; but fince the eighteenth year of king Charles the fecond, there is nothing taken either for the king, or for the expences of coining; fo that weight is returned for weight, to any perfon who carries their gold and filver to the Tower.

The fpecies coined in Great Britain, are efteemed contraband goods, and not to

be exported. All foreign fpecies are allowed to be fent out of the realm, as well as gold and filver in bars, ingots, duft, &c.

There is a duty of ten fhillings *per* ton on wine, beer, and brandy imported, called the coinage-duty, granted for the expence of the king's coinage.

Barbary COINAGE, particularly that of Fez and Tunis, is under no proper regulations, as every goldfmith, jew, or even private perfon, undertakes it at pleafure; which practice renders their money exceeding bad, and their commerce very unfafe.

Mufcovite COINAGE. In Mufcovy there is no other coin ftruck but filver, and that only in the cities of Mufcow, Novogrod, Twere, Plefkow, and Peterfburgh. The coinage of each of thefe cities is let out to farm, and makes part of the royal revenue.

Perfian COINAGE. All the money made in Perfia, is ftruck with a hammer, as is that of the reft of Afia; and the fame may be underftood of America, and the coafts of Africa, and even Mufcovy: the king's duty, in Perfia, is feven and a half *per cent.* for all the monies coined, which are lately reduced to filver and copper, there being no gold-coin there, except a kind of medals, at the acceffion of a new fophi.

Spanifh COINAGE is efteemed one of the leaft perfect in Europe. It is fettled at Sevile and Segovia, the only cities where gold and filver are ftruck; and yet there is fcarcely any ftate in the world where fo much money is coined, as in that of the king of Spain.

The invention of the mill is not yet gone out of Europe; nor even eftablifhed in every part of it: nor was the invention known till the year 1553, when the coining mill was firft invented by an engraver, one Antoine Brucher, and was firft tried in the french king's palace at Paris, for the coining of counters: fome attribute the invention of the mill to Varin, a noted engraver, who, in reality, was no more than an improver of it; and others afcribe it to Aubry Olivier, who had the infpection of it.

This machine has met with various fates fince its firft invention, being one time ufed, and at another time laid afide, and the hammer refumed: but it has now got fuch a footing and reputation, both for its expedition, and the beauty of its impreffion on the fpecies ftruck with it, that there appears no great probability of its ever being again difufed.

COINING, in the tin-works, is the weighing and ftamping the blocks of tin with a lion rampant, performed by the king's officer; the duty for every hundred weight being four fhillings.

CO-INDICATIONS, among phyficians, denote figns, which, together with others, ferve to indicate or point out the nature of a difeafe.

COIRE, or CHUR, the capital of the country of the Grifons, in Switzerland, fituated on the river Rhine, fifty-three miles fouth of Conftance: eaft longitude 9° 25′, north latitude 46° 40′.

COITION, the intercourfe between the male and the female in the act of generation. See the article GENERATION.

Frogs, it is obferved, are forty days in the act of coition.

It is alfo related by Bartholine, that butterflies make 130 vibrations with their wings in one act of coition.

COITION is alfo fometimes ufed for the mutual attraction or tendency towards each other, which is found between iron and the magnet.

COIX, JOB'S TEARS, in botany, a genus of the monoecia triandria clafs of plants; the corolla confifts of two valves: the valvulæ are ovato-lanceolated, very flender, and of the length of the cup. In the male flowers, the calyx is a glume containing two flowers, and has no awns: in the female, the calyx is the fame, and the corolla a glume without any ariftæ. There is no pericarpium: the feed, which is folitary and roundifh, is covered by the indurated calyx.

COKENHAUSEN, a fortrefs of Livonia, fituated on the river Dwina, about thirty-two miles eaft of Riga: eaft longitude 25°, north latitude 57°.

COLARBASIANS, in church-hiftory, chriftian heretics, in the fecond century, who maintained the whole plenitude and perfection of truth and religion to be contained in the greek alphabet, and that it was upon this account that Jefus Chrift was called the alpha and omega: they rejected the Old Teftament, and received only a part of St. Luke's gofpel, and ten of St. Paul's epiftles, in the new.

COLARIN, in architecture, the little frize of the capital of the tufcan and doric column, placed betwen the aftragal and the annulets; called alfo hypotrachelium, and fometimes cincture.

COLARIN is alfo ufed for the orlo or ring

on the top of the ſhaft of the column, next the capital.

COLATURE, the ſame with filtration. See the article FILTRATION.

COLCHESTER, a large borough-town of Eſſex, ſituated on the river Coln twenty miles north-eaſt of Chelmsford, on the road to Harwich; eaſt longitude 1°, north latitude 51° 55'.

It ſends two members to parliament.

COLCHICUM, MEADOW-SAFFRON, in botany, a genus of the hexandria-trigynia claſs of plants, with a monopetalous flower, divided into ſix oblong and erect ſegments; the fruit is a trilocular capſule, formed of three lobes, and containing a conſiderable number of roundiſh and rugoſe ſeeds.

The roots of this plant, once eſteemed poiſonous, are recommended by ſome in peſtilential and putrid caſes, the ſmall-pox, purple fevers, &c. But great caution ought to be uſed in adminiſtring it.

COLCOTHAR, in pharmacy, a preparation of vitriol calcined to a redneſs. However, what remains in the long neck, after the diſtillation of the ſpirit, is ſo much better calcined, than any body will be at the pains of doing on purpoſe; that it is uſually preferred, and is the ſubſtance kept under this name in the ſhops.

Colcothar is alſo prepared from chalcitis, by calcining it to a deep purple colour: in which ſtate it is very frequent in Turkey, where they preſcribe it in hæmorrhages with good ſucceſs; alſo as an aſtringent and ſtyptic, to ſtop bleeding. See VITRIOL and CHALCITIS.

COLD, in general, denotes the privation or abſence of heat; and, conſequently, thoſe who ſuppoſe heat to conſiſt in a briſk agitation of the component particles of the hot body, define cold to be ſuch a faint motion of theſe parts, as is either altogether or nearly imperceptible to our organs of feeling: in which ſenſe, cold is a mere term of relation between the cold body and the organs of ſenſation; and, in fact, the ſame body will be felt either hot or cold, according as the ſenſible organ is colder or hotter than it.

Be this as it will, cold is found to have very conſiderable effects, and therefore ſhould ſeem to be ſomething poſitive. An intenſe degree of heat reduces moſt bodies, even gold and the hardeſt ſtones, the diamond excepted, to a fluid ſtate. On the other hand, not only are theſe reſtored to their former ſolidity by cold, but greater degrees of it will congeal all kinds of water, even that of the ocean, and the watery particles to be found in ſpirits. See the articles FROST, CONDENSATION, &c.

COLD, in medicine, is found to be productive of inflammatory diſorders, as coughs, pleuriſies, peripneumonies, rheumatic pains, conſumptions, &c. See the articles COUGH, PLEURISY, PERIPNEUMONY. &c.

To remove a cold in the beginning, ſmall and repeated bleedings are recommended; which likewiſe prove beneficial in coughs and the confirmed conſumption, even after a purulent ſpitting, and hectical ſymptoms have appeared. The quantity, to be taken away at a time, may be from four to ſeven or eight ounces, once in eight or ten days; concerning which it is obſervable, that the patients do not find themſelves ſo much relieved on the firſt as on the ſecond or third night after bleeding.

What we commonly call catching cold, may be cured by lying much in bed; by drinking plentifully of warm ſack-whey, with a few drops of ſpirit of hart's-horn, poſſet-drink, water-gruel, or any other warm ſmall liquor. In ſhort, it ought to be treated at firſt as a ſmall fever, with gentle diaphoretics; and afterwards, if any cough or ſpitting ſhould remain, by ſoftening the breaſt with a little ſugar-candy and oil of ſweet almonds, or a ſolution of gum ammoniac in barley-water; taking care to go abroad well clothed.

This is a much more eaſy, natural, and effectual way than the common practice by balſams, linctuſes, pectorals, &c. which ſerve only to ſpoil the ſtomach, oppreſs the ſpirits, and hurt the conſtitution.

COLDENIA, in botany, a genus of the tetrandria-tetragynia claſs of plants, the flower of which conſiſts of a ſingle funnel-ſhaped petal: there is no pericarpium: the fruit is oval, compreſſed, rough, acuminated; and the ſeeds are four in number, convex and rough on one ſide, and angular and acuminated on the other.

COLDSHIRE-IRON, that which is brittle when cold. See the article IRON.

COLE-FISH, the engliſh name of a ſpecies of beardleſs gadus, with three back-fins, and the lower jaw longeſt. See GADUS.

COLEOPTERA, among zoologiſts, an order of inſects, comprehending all thoſe with four wings, the external pair of which are hard, rigid, and opake, and form a kind of caſe for the interior pair:

add to this, that the mouth consists of two transverse jaws.

These animals are known, in english, by the general name of beetles; whereof authors have established a great many genera, from the different figures of their antennæ, or horns, and other general distinctions: such are the *scarabæus*, or beetle properly so called, the *dermestes*, *cassida*, *coccinella*, *chrysomela*, *dytiscus*, *blatta*, *tenebrio*, and several other genera. See SCARABÆUS, DERMESTES, *&c.*

COLE-SEED, the seed of the *napus sativa*, or long-rooted, narrow-leaved rapa, called, in english, navew, and comprehended by Linnæus among the brassica's, or cabbage-kind. See BRASSICA.

This plant is cultivated to great advantage in many parts of England, on account of the nape-oil expressed from its seeds. It requires a rich and strong soil, especially in marsh or fenny lands, those newly recovered from the sea, or indeed any other land that is rank and fat, whether arable or pasture. The best seeds are brought from Holland, and should be sown about Midsummer, the very day that the land is plowed: a gallon will serve an acre.

Besides the oil already mentioned, it is likewise cultivated for winter-food to cattle, and is a very good preparative of land for barley or wheat.

COLE-WORT, in gardening, a species of brassica. See BRASSICA.

COLIC, in medicine, a severe pain in the lower venter, so called, because the disorder was formerly supposed to be seated in the colon.

As the small and great intestines differ with respect to their contexture, capacity, function and situation, so the pains which affect them are no less distinguished by the places where they are seated, their degree of violence, their danger, and other acceding disorders. It is observed, that pains in the small intestines, are far more severe and acute than in the great ones. This is abundantly evident, from the effects of strong cathartics, and poisons of a caustic quality, in exciting most severe griping and racking pains, above and below the navel, as well as in the middle of the belly.

Most physicians take the whole regions of the intestines for the seat and subject of this pain; yet so, as that when one part of it is affected in an extraordinary manner, the whole intestinal tube, from the fauces to the anus, suffers by consent; or the preternatural motions, and even the inversions and injuries of the peristaltic motion, are communicated to all the rest in such a manner, that, if the cause of the disease be very considerable, the whole nervous system is at the same time affected to an extraordinary degree.

There are different causes of these severe pains of the intestines, and according to the nature, disposition, and force of these causes, are the symptoms diversified, and the danger more or less to be apprehended. A very frequent cause is a retention and induration of the fæces in the large intestines, and sometimes in the small ones, proceeding, in a great measure, from a load of acido-viscid crudities, dry, juiceless, and astringent food, immoderate sleep, and a way of life unused to exercise and motion. In this obstructed and costive state of the belly, whenever it happens, that, upon the use of sweet aliments, and such as are subject to ferment, of fat flesh meat, especially mutton, with drinking of cool liquors, and refrigeration of the feet and belly, the inflation of the abdomen is increased, and the pain exasperated; hence, we may discern the nature and marks of the flatulent colic, which the antients ascribed to a cold cause, and whose generation and frequent attacks suppose an imbecillity of the intestines, and a want of due tone and strength in those parts; whence this sort of colic is very incident to fat and phlegmatic, as well as old and infirm, persons, especially if they take not due care to keep the cold from their feet, back and belly.

Another kind of colic is the bilious, which, according to the antients, owes its original to a hot cause, and arises from a bilious, acrid, corrupted humour, collected in too great plenty, and stagnating in the small intestines, particularly the duodenum. It frequently succeeds a great fit of anger, especially in persons of a hot and dry constitution, in a hot season; or it proceeds from an excessive use of hot and spirituous liquors, and by cooling potions, which obstructs perspiration, is exasperated, and rages with greater violence. The remarkable symptoms which attend it, are a hoarseness of the voice, the heart-burn, a continual loathing of food, a vomiting of porraceous bilious matter, the hiccup, a hot and feverish distemperature, restlessness, *&c.*

As to the method of cure, it appears from what has been said, that the causes of this affection are surprisingly various; and

and it may be inferred, that the manner of treatment ought to be varied in a way suitable to the difference of the causes, whence the pain of the intestines proceeds.

When from a suppression of the customary flux of the hæmorrhoids, or menses, especially in bodies abounding with blood, there arises a violent pain of the abdomen, attended with much heat, *&c.* a vein should be opened in the foot, then emollient clysters, antispasmodic powders, with a small portion of nitre, cinnabar, and castor should be used, and the feet bathed; and, under a remission of the fit, care should be taken to restore the menses in women, and the hæmorrhoids in men, to their natural courses. When the pain of the intestines proceeds from a redundance of intemperate and caustic bile, the same remedies are of service.

But what exceeds these and all other remedies in this case, is a nitrous powder, mixed with a drop or two of the true distilled oil of millefolium, to be taken in three or four ounces of the water of common chamomile-flowers.

If the pain be tensive, and fixed in the right or left hypochondrium, or beneath the stomach, it is a sure sign that the disorder proceeds from flatulencies, or excrements inclosed within the flexures of the colon. In this case, the principal indication directs us to the use of clysters of an emollient, discutient, and corroborating quality, not omitting external applications of carminative and emollient liniments to the affected part.

When the rectum and part of the colon are affected with a strong convulsive stricture, so as to be incapable of transmitting either flatus or fæces, and a clyster cannot conveniently be introduced, the abdomen is to be fomented, all over, with hot and rich oils, by coction, particularly those of chamomile, dill, or rue, boiled with the fats of a badger, dog, fox, beaver, *&c.* which may be introduced, if possible, into the belly by clysters.

A flatulent colic, proceeding from imbecillity, and want of a due tone of the stomach and intestines, admits of the use of carminative things somewhat hotter than ordinary. Among these are spirituous carminative waters, prepared of the seeds of cumin and caraway, orange-peel, and the flowers of common roman chamomile and cardamums, distilled in wine.

COLIPHIUM, in antiquity, bread mixed with new cheese and roasted flesh, a composition which Pythagoras recommended to the use of wrestlers, in order to make them strong and firm fleshed, whereas formerly they used figs.

COLIR, an officer in China, who may properly be called an inspector, having an eye over what passes in every court or tribunal of the empire; and though he is not of the number himself, yet he assists at all assemblies, the proceedings whereof are communicated to him.

In order to render him impartial, he is kept independent, by having the post for life. The power of the colirs is such, that they make even the princes of the blood tremble.

COLISEUM, or COLISÆUM, in antient architecture, an oval amphitheatre at Rome, built by Vespasian, wherein were statues set up, representing all the provinces of the empire: in the middle whereof stood that of Rome, holding a golden apple in her hand.

This structure was so large, that it would hold near 100,000 spectators.

When Titus dedicated it, he sacrificed above 4000 beasts of different kinds.

COLLAR, *collare*, in roman antiquity, a sort of chain put generally round the neck of slaves that had ran away, after they were taken, with an inscription round it, intimating their being deserters, and requiring their being restored to their proper owners, *&c.*

COLLAR, in a more modern sense, an ornament consisting of a chain of gold, enamelled, frequently set with cyphers or other devices, with the badge of the order hanging at the bottom, wore by the knights of several military orders over their shoulders, on the mantle, and its figure drawn round their armories.

Thus, the collar of the order of the garter, consists of S S, with roses enamelled red, with a garter enamelled blue, and the George at the bottom.

Knights of the COLLAR, a military order in the republic of Venice, called also the order of St. Mark, or the medal.

It is the doge and the senate that confer this order; the knights bear no particular habit, only the collar, which the doge puts around their neck, with a medal, wherein is represented the winged lion of the republic.

COLLAR *of a ship*, a rope fastened about her beak-head, into which the dead man's eye is seized, that holds her main stay.

Also the rope which is wound about the main-

main-mast head, to save the shrouds from galling, is also called a collar.

COLLAR-BEAM, in architecture, a beam framed cross betwixt two principal rafters.

COLLAR *of a plough*, an iron ring fixed on the middle of the beam, wherein are inserted the tow and bridle chains. See the article PLOUGH.

COLLAR *of a draught horse*, a part of harness made of leather and canvas, and stuffed with straw or wool, to be put about the horse's neck.

COLLATERAL, in geography, any thing, place, country, &c. situated by the side of another.

COLLATERAL POINT, in cosmography, the intermediate points; or those between the cardinal points.

The collateral points are either primary, which are those removed by an equal angle on each side from two cardinal points; or secondary, which, again, are either those of the first or second order. The first are those that are equally distant from a cardinal point, and first primary; The latter equally distant from some cardinal and primary, and first secondary.

COLLATERAL WINDS, are those blowing from collateral points. See WIND.

COLLATERAL, in genealogy, those relations which proceed from the same stock, but not in the same line of ascendants or descendants, but being, as it were, aside of each other.

Thus uncles, aunts, nephews, nieces and cousins, are collaterals, or in the same collateral line: those in a higher degree, and nearer the common root, represent a kind of paternity with regard to those more remote.

COLLATERAL, in a legal sense, is taken for any thing that hangeth by the side of another, whereto it relates; as a collateral assurance is that instrument which is made over and above the deed itself, for the performance of covenants, between man and man; thus called as being external, and without the nature and essence of the covenant.

COLLATION, in the canon law, the giving or bestowing of a benefice on a clergyman by a bishop, who has it in his own gift, or patronage.

This differs from presentation, in that the latter is properly the act of a patron, offering the clerk to the bishop, to be instituted into a benefice, whereas the former is the act of the bishop himself. The collator can never confer a benefice on himself.

Antiently, the right of presentation to all churches was in the bishop; and now, if the patron neglects to present to the church, his right returns to the bishop by collation. If the bishop neglects to exercise his right of collation in six months, the archbishop may confer. If he neglect it for other six months, it falls to the crown.

In the romish church, the pope is the collator of all benefices, even elective ones, by prevention; setting aside consistorial benefices, and those in the nomination of lay-patrons. In France the king is collator of all the benefices, whereof he is patron, except consistorial ones, to which he has only the nomination; and the pope, by virtue of the concordat, is obliged to confer on whomsoever the king nominates.

COLLATION is also used in the romish church, for the meal or repast made on a fast day.

COLLATION is also vulgarly used for a repast between dinner and supper.

COLLATION, in common law, the comparison or presentation of a copy to its original, to see whether or not it be conformable; or the report or act of the officer who made the comparison. A collated act is equivalent to its original, provided all the parties concerned were present at the collation.

COLLATIONE *facta uni post mortem alterius*, a writ to the justices of the common-pleas, commanding them to issue their writ to the bishop, for the admitting of a clerk in the place of another presented by the king; such other clerk, during the suit between the king and the bishop's clerk, being dead.

COLLATIVE BENEFICES, are those which are in the gift of the ordinaries, and within their own jurisdiction, in which case there need no presentation, but the ordinary collates and institutes the clerk, and sends him to the archdeacon, or other person, whose office it is to induct him.

COLLEAGUE, a partner or associate in the same office or magistrature. See the article ADJUNCT.

COLLECT, or COLLECTION, a voluntary gathering of money, or a tax raised by a prince for any pious design, or charitable purpose.

COLLECTS, in an ecclesiastical sense, the short

short prayers into which the public devotions of the church are divided.

In the primitive church, the collects were repeated by the bishop alone, after the joint prayers of the deacon and congregation: they were called by the Greeks ευχολογιας, because they were a direct invocation of God by way of benediction, and not an exhortation to pray, which was the office of the deacon. That most of the collects of the liturgy of the church of England are very antient, appears from their conformity to the epistles and gospels, which are thought to have been selected by St. Jerom; for which reason, many believe that the collects were likewise first framed by that father. In the year 492, Gelasius, bishop of Rome, ranged the collects, which were then used, into order, and added some new ones of his own; which office was again corrected by pope Gregory the great, whose sacramentary contains most of the collects we now use: but our reformers examined the collects, corrected them, and restored several old ones, formerly left out.

COLLECTION, in logic, a term used by some for what is generally called syllogism. See the article SYLLOGISM.

COLLECTIVE, among grammarians, a term applied to a noun expressing a multitude, though itself be only singular; as an army, company, troop, &c. called collective nouns.

COLLECTOR, in general, denotes a person who gets or brings together things formerly dispersed and separated. Hence,

COLLECTOR, in matters of civil polity, is a person appointed by the commissioners of any duty, the inhabitants of a parish, &c. to raise or gather any kind of tax.

COLLECTOR, among botanists, one who gets together as many species of any kind of plant as he can, without studying botany in a scientifical manner.

COLLEGATARY, in the civil law, a person who has a legacy left him in common with one or more other persons.

If the thing be bequeathed in *solido*, the portion of the deceased collegatory accrues to the rest.

COLLEGE, *collegium*, an assemblage of several bodies or societies, or of several persons into one society.

College, among the Romans, served indifferently for those employed in the offices of religion, of government, the liberal and even mechanical arts and trades; so that, with them, the word signified what we call a corporation or company.

Each of these colleges had distinct meeting-places or halls; and likewise, in imitation of the state, a treasury and common chest, a register, and one to represent them upon public occasions, and acts of government. These colleges had the privilege of manumitting slaves, of being legates, and making by-laws for their own body, provided they did not clash with those of the government.

There are various colleges on foot among the moderns, founded on the model of those of the antients. Such are the three colleges of the empire, *viz.*

COLLEGE *of electors, or their deputies*, assembled in the diet of Ratisbon.

COLLEGE *of princes*, the body of princes, or their deputies, at the diet of Ratisbon.

COLLEGE *of cities*, is, in like manner, the body of deputies which the imperial cities send to the diet. See the articles ELECTOR and DIET.

COLLEGE *of cardinals*, or the *sacred* COLLEGE, a body composed of the three orders of cardinals. See CARDINAL.

COLLEGE is also used for a public place endowed with certain revenues, where the several parts of learning are taught. An assemblage of several of these colleges, constitutes an university. The erection of colleges, is part of the royal prerogative, and not to be done without the king's license.

The university of Oxford consists of nineteen colleges, and six halls; that of Cambridge, of twelve colleges, and four halls; and that of Paris, of fifty four colleges, though, in reality, there is but ten where there is any teaching.

There were several colleges among the Jews, consisting generally of the tribe of Levi. The prophet Samuel seems to have made the use of them more public, and brought them under several regulations: he is said to have founded the college of the prophets, &c.

As for the colleges of the christians, the apostles and seventy disciples, may not improperly be said to be the first: afterwards St. Mark, the evangelist, is said to have set up a public school for reading, instruction, and interpretation of scripture at Alexandria. This school produced a great many persons eminent for their learning, as Clemens, Origen, Dionysius, Athanasius, &c.

Among the Greeks, the Lyceum and Academy,

Academy, were celebrated colleges: the latter of which has given its name to our univerfities, which in Latin are called *academiæ*.

The Romans came late into the inftitution of fuch colleges: they had, however, feveral founded by their emperors, efpecially in Gaul, the chief of which were thofe of Marfeilles, Lions, Befancon, and Bourdeaux.

Colleges of this kind have been generally in the hands of thofe devoted to religion. Thus the Magi in Perfia, the Gymnofophifts in the Indies, the Druids in Gaul and Britain, had the care of educating youth in the fciences. After chriftianity became eftablifhed, there were almoft as many colleges as monafteries; particularly in the reign of Charlemaigne, who, in his capitulars, enjoined the monks to inftruct youth in mufic, grammar, and arithmetic: but this calling the monks from their folitude, and taking up too much of their time, the care of the college was at length put into the hands of fuch as had nothing elfe to do.

In the canon law, it is faid, three perfons make a college. The colleges in London are,

COLLEGE *of civilians*, commonly called *Doctors-commons*, founded by Dr. Harvey, dean of the arches, for the profeffors of the civil law refiding in the city of London. The judges of the arches, admiralty, and prerogative court, with feveral other eminent civilians, commonly refide here.

To this college belong thirty-four proctors, who make themfelves parties for their clients, manage their caufes, give licenfes for marriages, &c.

In the common hall of Doctors-commons are held feveral courts, under the jurifdiction of the civil law, particularly the high court of admiralty, the court of delegates, the arches court of Canterbury, and the prerogative court of Canterbury, whofe terms for fitting are much like thofe at Weftminfter, every one of them holding feveral court days; moft of them fixed and known by preceding holydays, and the reft appointed at the judge's pleafure.

COLLEGE *of phyficians*, a corporation of phyficians in London, whofe number, by charter, is not to exceed eighty: The chief of them are called fellows, and the next candidates, who fill up the places of fellows as they became vacant by death, or otherwife. Next to thefe are the honorary fellows, and laftly, the licentiates, that is, fuch as being found capable, upon examination, are allowed to practife phyfic.

This college has feveral great privileges granted by charter and acts of parliament. No man can practife phyfic in, or within feven miles of London, without licenfe of the college, under the penalty of 5 *l.* Alfo, perfons practifing phyfic in other parts of England, are to have letters teftimonial from the prefident and three elects, unlefs they be graduate phyficians of Oxford or Cambridge. Every member of the college, is authorifed to practife furgery in London, or elfewhere; and that they may be able at all times to attend their patients, they are freed from all parifh offices.

The college is governed by a prefident, four cenfors, and twelve electors. The cenfors have, by charter, power to furvey, govern, and arreft all phyficians, or others, practifing phyfic in or within feven miles of London; to fine, amerce, and imprifon them at difcretion; to fearch apothecaries fhops, &c. in and about London; to fee if their drugs, &c. be wholefome, and the compofitions according to the form prefcribed by the college in their difpenfaries; and to burn, or otherwife deftroy, thofe that are defective or decayed, and not fit for ufe. They are judges of record, and not liable to action for what they do in their practice but by judicial powers; fubject neverthelefs to appeal to the college of phyficians. However the college is not very rigorous in afferting its privileges, there being fome of very good abilities who practife in London, &c. without their licenfe: yet, by law, if any perfon, not exprefsly allowed to practife, take upon him the cure of any difeafe, and the patient die under his hand, it is deemed felony in the practifer.

In 1696, forty-two members of the college made a fubfcription, to fet on foot a difpenfary for the relief of the fick poor, who are advifed gratis every day but Sunday, and medicines fold at the intrinfic value: fince this they have erected two other difpenfaries.

Royal COLLEGE *of phyficians*, is alfo a corporation of phyficians in Edinburgh, erected by king Charles II. granting them, by patent under the great feal, an ample jurifdiction within this city and liberties, commanding the courts of juftice to affift them in the execution of their orders,

orders. These have the sole faculty of professing physic here, and hold conferences once a month for the improvement of medicine. This college consists of a president, two censors, a secretary, and the ordinary society of fellows, who, upon St. Andrew's day, if it falls on a Thursday, if not on the first Thursday after, elect seven counsellors, who chuse the president and the other officers for the ensuing year. By their charter the president and censors have power to convene before them all persons that presume to practise physic within the city of Edinburgh, or the liberties thereof, without the license of the college; and to fine them in five pounds sterling. They are also impowered to visit apothecaries-shops, and examine apothecaries themselves; with several other rights and privileges.

Sion-COLLEGE, or the college of the London clergy, was formerly a religious house, next to a spittal, or hospital, and now it is a composition of both, *viz.* a college for the clergy of London, who were incorporated in 1631, at the request of Dr. White, under the name of the president and fellows of Sion College; and an hospital for ten poor men, the first within the gates of the house, and the latter without.

This college consists of a president, two deans, and four assistants, who are annually chosen from among the rectors and vicars in London, subject to the visitation of the bishop. They have one of the finest libraries in England, built and stocked by Mr. Simpson, chiefly for the clergy of the city, without excluding other students on certain terms; they have also a hall with chambers for the students, generally filled with the ministers of the neighbouring parishes.

Gresham-COLLEGE, or COLLEGE *of philosophy*, a college founded by Sir Thomas Gresham, who built the Royal-exchange, a moiety of the revenue whereof he gave in trust to the mayor and commonalty of London, and their successors, for ever, and the other moiety to the company of mercers; the first, to find four able persons to read in the college divinity, astronomy, music, and geometry; and the last, three or more able men to read rhetoric, civil law, and physic; a lecture upon each subject is to be read in term-time, every day, except Sundays, in Latin, in the forenoon, and the same in English in the afternoon; only the music lecture is to be read alone in English. The lecturers have each 50 *l. per annum*, and a lodging in the college.

In this college formerly met the royal society, that noble academy, celebrated throughout the world for their improvements in natural knowledge. See the article SOCIETY.

COLLEGE *of heralds*, or COLLEGE *of arms*, commonly called the *heralds office*, a corporation founded by charter of king Richard the third, who granted them several privileges, as to be free from subsidies, tolls, offices, *&c.* They had a second charter from king Edward the sixth, and a house built near Doctors-commons, by the earl of Derby, in the reign of king Henry the seventh, was given them by the duke of Norfolk, in the reign of queen Mary, which house is now rebuilt. This college is subordinate to the earl marshal of England. They are assistants to him in his court of chivalry, usually held in the common hall of the college, where they sit in their rich coats of his majesty's arms. See the article HERALD.

COLLEGE *of heralds* in Scotland. The principal person in the scottish court of honour is lyon king at arms, who has six heralds and six pursuivants, and a great number of messengers at arms under him, who, together, make up the college of heralds. The lyon is obliged to hold two peremptory courts in the year, at Edinburgh, on the 6th of May and the 6th of November, and to call officers of arms and their cautioners before him upon complaints; and if found culpable upon trial, to deprive and fine them and their cautioners. Lyon and his brethren the heralds have power to visit the arms of noblemen and gentlemen, and to distinguish them with differences, to register them in their books, as also to inhibit such to bear arms as by the law of arms ought not to bear them, under the pain of escheating to the king the thing whereon the arms are found, and of a hundred marks Scots to lyon and his brethren; or of imprisonment during lyon's pleasure. The college of heralds are the judges of the malversation of messengers, whose business is to execute summonses and letters of diligence for civil debt, real or personal.

COLLEGES *of common law.* See the article INNS *of court and chancery*.

Besides these colleges, we have three charitable foundations for learning, called colleges, *viz.* Winchester, Eaton, and Westminster.

COLLEGES *for difabled foldiers, failors, &c.* See the article HOSPITAL.

COLLEGIAL, or COLLEGIATE. See the article COLLEGIATE.

COLLEGIANS, in church-hiftory, religious focieties, or clubs, among the Dutch, confifting of perfons of various profeffions, but all agreeing that the fcriptures are the writings of men infpired. Thefe meetings are eftablifhed in feveral towns of Holland, Friefland, Weft Friefland, and particularly at Rinfburg, a village near Leyden, where they meet twice a week. In thefe clubs every one has a right to fpeak his own fentiments, whether he be a churchman or a layman.

COLLEGIATE CHURCHES, thofe which tho' no bifhop's fee, yet have the retinue of the bifhop, the canons and prebends. Such are, among us, Weftminfter, Windfor, Rippon, Wolverhampton, Southwell, Manchefter, *&c.* governed by deans and chapters. See the articles DEAN and CHAPTER.

There are two kinds of thefe collegiate churches, fome of royal foundation, others of ecclefiaftical foundation: each of them, in matters of divine fervice, are regarded in the fame manner as cathedrals. There are even fome collegiate churches which have epifcopal rights; fome of thefe churches were antiently abbies, which in time were fecularized.

COLLEGIATE AUDITORS. See AUDITOR.

Vergers of COLLEGIATE CHURCHES. See the article VERGER.

COLLEMA, in botany, a genus of moffes, confifting merely of a gelatinous matter, refembling boiled glue or fize. This is fometimes difpofed in form of filaments, fometimes of membranes, and fometimes of neither, but perfectly fhapelefs. No part of fructification has ever yet been diftinguifhed in any of the fpecies of this genus.

COLLET, among jewellers, denotes the horizontal face or plane at the bottom of brilliants.

COLLET, in glafs making, is that part of glafs veffels which fticks to the iron inftrument wherewith the metal was taken out of the melting pot: thefe are afterwards ufed for making green glafs.

COLLETICS, *colletica,* in pharmacy and furgery, denote much the fame with agglutinants, or vulneraries. See the article VULNERARY.

COLLINSONIA, in botany, a genus of the diandria-monogynia clafs of plants, whofe corolla confifts of a fingle, unequal petal; the tube is of a conico-cylindraceous fhape, and is much larger than the cup; the limb is quadrifid and erect; one of the fegments very long, and divided to the middle into other fmaller, ramofe and capillary laciniæ: the fegment oppofite to this is very fmall, emarginated and acute; the lateral ones are oppofite to one another, and are erect, entire, and very fmall.

There is no pericarpium; (that ever Linnæus obferved) the feed is fingle, of a globular figure, and is contained in the bottom of the cup.

COLLIQUAMENTUM, in natural hiftory, an extreme tranfparent fluid in an egg, obfervable after two or three days incubation, containing the firft rudiments of the chick. It is included in one of its own proper membranes, diftinct from the albumen. Harvey calls it the occulus.

COLLIQUATON, in chemiftry, is applied to animal, vegetable, and mineral fubftances, tending towards fufion. See the article FUSION.

COLLIQUATION, in phyfic, a term applied to the blood, when it lofes its crafis or balfamic texture; and to the folid parts, when they wafte away, by means of the animal fluids flowing off through the feveral glands, and particularly thofe of the fkin, fafter than they ought: which occafions fluxes of many kinds, but moftly profufe, greafy, and clammy fweats. The curative intention in this cafe is, the giving a better confiftence by balfamics and agglutinants to the blood, and the hardening of the folids by fubaftringents.

COLLIQUATIVE FEVER, in phyfic, a fever attended with a diarrhœa, or profufe fweats, proceeding from colliquation. See COLLIQUATION.

COLLISEUM, or COLISEUM. See the article COLISEUM.

COLLISION, the ftriking of one hard body againft another; or the friction or percuffion of bodies moving violently with different directions, and dafhing againft each other. See PERCUSSION.

COLLUM, the fame with neck. See the articles NECK and CERVIX.

COLLUSION, in law, a fecret underftanding between two parties, who plead or proceed fraudulently againft each, to the other prejudice of a third perfon.

In the canon law, collufion in matters of benefices vacates the benefice, and incapacitates the perfon from holding any benefice at all.

COLLUTHIANS, in church-hiftory, a religious fect which arofe in the fixth century, on occafion of the indulgence fhewn to Arius by Alexander, patriarch of Alexandria: they held that God was not the author of the evils and afflictions of this life, &c.

COLLYRIDIANS, in church-hiftory, a fect of antient heretics, who paid divine honours to the virgin Mary, offering her little cakes called *collyrida*.

COLLYRIUM, in pharmacy, a topical remedy for diforders of the eyes; defigned to cool and repel hot, fharp humours, which they do more effectually, if affifted by the inward ufe of diuretics at the fame time.

They are generally of two kinds, the one liquid, and the other dry: liquid collyrias are compofed of ophthalmic powders in water, as rofe-water, plantain-water, or that of fennel, eye-bright, &c. wherein tutty, white vitriol, or fome other proper powder is diffolved.

The dry collyrium is troches of rhafis, fugar-candy, tutty prepared, &c. blown into the eye.

COLOCYNTHIS, in botany, the plant which produces the coloquintida of the fhops, and ufually called bitter-apple: this, according to Tournefort, makes a diftinct genus, but is comprehended by Linnæus under the cucumis, or cucumber-kind. See the articles CUCUMIS and COLOQUINTIDA.

COLOGNE, the capital of the circle of the lower Rhine, in Germany, fituated on the Rhine, about forty-five miles eaft of Maeftricht: eaft longitude 6° 40′, north latitude 50° 50′.

It is one of the largeft and moft elegant cities of Germany, being the fee of an archbifhop, who is one of the electors of the empire, and has a yearly revenue of 130,000*l.* fterling.

COLOGNE *earth*, a fubftance ufed in painting, much approaching to amber in its ftructure, and of a deep brown. It has generally been efteemed a genuine earth, but has been difcovered to contain a great deal of vegetable matter, and, indeed, is a very fingular fubftance.

It never conftitutes an entire ftratum in the earth, but is lodged among other ftrata in large flat detached maffes. It is moderately dry, while in the earth, and of a foft crumbly texture. When dried, it is of a deep, dufky brown, of a very clofe, compact, and fine ftructure, and very remarkably light; it is of a fmooth, even furface, dry, but not harfh to the touch, crumbles eafily to pieces between the fingers, and flightly ftains the hands; it adheres firmly to the tongue, and is of a very auftere and aftringent tafte, but not at all refembling the aftringency of the boles, or any thing elfe of the mineral kingdom, but plainly refembling the tafte of oak bark. It makes no effervefcence with acids; if thrown into water, it fwims on the furface, till thoroughly wetted; and if brought into contact with burning coals, it takes fire, and burns of itfelf, till reduced to yellowifh afhes.

It is eafy to difcern from this account, that though this is generally efteemed an earth, and known to the world by no other name, it is no pure native foffile, but contains more vegetable, than mineral matter, and owes its origin to the remains of wood which has been long buried in the earth. It is dug in Germany and France: the quantities confumed in painting, in London, are brought from Cologne, where it is found very plentifully; but our own kingdom is not without it, it being found near Birmingham, and on Mendip-hills, in Somerfetfhire; but what has been yet found there is not fo pure or fine, as that imported from Cologne.

COLON, in anatomy, the fecond of the three large inteftines, called inteftina craffa.

The fituation of this is at the circumference of the fmall inteftines, and is ufually convoluted and flexuous, varioufly, in a ftrange manner. Its beginning is above the termination of the ilium, and its end at the os facrum. It is connected with the os ilii, the right kidney, the gall-bladder, the liver, the ftomach, the fpleen, and finally with the left kidney. Its length is from five to feven fpans; its diameter is the greateft of that of any inteftine. It has three ligaments terminating in the vermiform procefs that runs longitudinally in it. It has alfo certain external adipofe appendiculæ, which ferve to lubricate it. The connivent valves are larger in this than in any other of the guts, and the coats it is compofed of are ftronger than in the fmall guts.

COLON, in grammar, a point or character marked thus, (:) fhewing the preceding fentence to be perfect or intire; only that fome remark, farther illuftration, or other matter connected therewith,

is subjoined. See the articles POINTING, PERIOD, COMA, &c.

According to a late ingenious author, the colon differs from the semicolon, &c. in serving to distinguish those conjunct members of a sentence which are capable of being divided into other members; whereof one, at least, is conjunct.

COLONEL, in military matters, the commander in chief of a regiment, whether horse, foot, or dragoons.

A colonel may lay any officer of his regiment under arrest, but must acquaint the general with it; he is not allowed a guard, only a centry from the quarter-guard.

COLONEL-LIEUTENANT, he who commands a regiment of guards, whereof the king, prince, or other person of the first eminence, is colonel.

These colonel-lieutenants have always a colonel's commission, and are usually general officers.

Lieutenant-COLONEL, the second officer in a regiment, who is at the head of the captains, and commands in the absence of the colonel.

COLONNA, a town of Italy, in the Campagnia of Rome, eighteen miles eastward of that city: east longitude 13° 15', north latitude 42°.

COLONNADE, in architecture, a peristyle of a circular figure: or a series of columns disposed in a circle, and insulated within side. See PERISTYLE.

Such is that of the little park at Versailles, consisting of thirty-two ionic columns, all of solid marble, and without incrustation.

A polystyle COLONNADE, is that whose numbers of columns is too great to be taken in by the eye at a single view. Such is the colonnade of the palace of St. Peter's, at Rome, consisting of 284 columns of the doric order, each above four foot and an half diameter, all in tiburtine marble.

COLONY, *colonia*, a company of people transplanted into a remote province, in order to cultivate and inhabit it.

Colonies are of three sorts: the first are those that serve to ease and discharge the inhabitants of a country, where the people are become too numerous; the second are those established by victorious princes in the middle of vanquished nations, to keep them in awe and obedience; and the third sort are those established for the promotion of trade, called colonies of commerce; such are those established by european nations in several parts of Asia, Africa, and America.

It has been a matter of doubt with some, whether our colonies in America have not proved prejudicial to Great Britain. It is agreed, that their colonies in America have proved highly detrimental to the Spaniards: owing to the nature of their government; as the inquisition frights away strangers; as their monasteries prevent marriages; and as there is no provision at all to repair what their colonies drain them of: whereas the Hollanders, who send out greater numbers every year than the Spaniards, are not depopulated by it: their constitution inviting more over to them than they send abroad; and in the british colonies, all foreigners may be made denizens, for an inconsiderable charge; whereby many of all nations are encouraged to settle and plant in our Indies, whence the crown gains subjects of them and their posterity, and to the nation accrues wealth by their labour and industry. There is reason to think that, for some years, the plantations have sent of their offspring, and the persecutions abroad have brought us as much people as the colonies have drained us of. Wherefore we may safely advance, that our trade and navigation are greatly increased by our colonies; and that they really are a source of treasures and naval power to this kingdom, since they work for us, and their treasures center here. See the article PLANTATION.

COLOPHONY, in pharmacy, black resin, or turpentine, boiled in water, and afterwards dried; or which is still better, the caput mortuum remaining after the distillation of the etherial oil, being further urged by a more intense and long continued fire.

When colophony, thus prepared, is treated with a fire of suppression, it yields a thick oil along with a heavy, acid water, which discovers the nature and genuine properties of a resin. Whatever virtues therefore colophony is possessed of, may be ascribed to the energy of these two principles, combined and blended into one common substance. Colophony reduced to powder, is of singular advantage in surgery, in cases where the bones are laid bare, or the periosteum, tendons and muscles injured by burns, corrosions, contusions, punctures, lacerations, or partial divisions. It also prevents

vents defluctions of serum on the joints, and induces cicatrices, and checks the fungous excrescences of ulcers, if applied in the same manner. Besides its drying, consolidating, and lenitive qualities, it is an ingredient in several plasters and ointments.

COLOQUINTIDA, COLOCYNTH, *colocynthis*, in pharmacy, the fruit of the plant colocynthis. See COLOCYNTHIS. It is sent to us dried, or cleansed of its outer bark, which is yellowish, and tough, and of the thickness of a shilling, or a little more: it ought to be chosen dry, light, and tough, of a good bright colour, and not dusty.

Coloquintida has been known in medicine from the earliest times as one of the strongest purges we are acquainted with: it is sent us from Syria, particularly from Aleppo. Coloquintida distilled with water, in the common way, with an alembic, affords an insipid, inodorous liquor, not at all purging: but being fermented and distilled, it yields a spirituous liquor that purges strongly. All the medical writers, from Hippocrates down to the latest times, give it the character of the most powerful known hydragogue, and it has been prescribed in pains of the limbs, head-achs of the worst kinds, obstructions of the viscera, and terrible cutaneous foulnesses; as also in dropsies with great success: but it is to be given with great caution. In large doses it is so violent in its operation, that it has like to have been excluded the materia medica as a poison. If it brings an hypercatharsis and convulsions, the readiest way of relieving the patient is by giving oil in considerable quantities, as well by the mouth, as in clysters. It is scarce ever prescribed singly, at this time. It is an ingredient in the pillulæ cocciæ, and, though in a very large proportion, is never found to do any hurt there.

COLOR, or COLOUR. See COLOUR.

COLORATION, See the article COLORIZATION.

COLORATURA, in music, denotes all manner of variations, trillos, diminutions, &c. serving to make a song agreeable.

COLORIZATION, or COLORATION, in pharmacy, a term sometimes used for the changes of colour which bodies undergo, whether by calcination, coction, fermentation, &c.

COLOSSUS, a statue of a gigantic, or enormous size. The most famous of this kind was the colossus of Rhodes, made, in honour of Apollo, by Chares the disciple of Lysippus. It was eighty-six feet high, and its thumb so large, that few people could fathom it. This statue was placed across the mouth of the harbour at Rhodes, and the ships with full sails passed betwixt its legs.

COLOSTRUM, or COLOSTRA, in medicine, the first milk of any animal after bringing forth young, called beestings. It is remarkable that this milk is generally cathartic, and purges off the meconium; thus serving both as an aliment and medicine.

An emulsion prepared with turpentine, dissolved with the yolk of an egg, is sometimes called by this name.

COLOUR, or COLOR, in physiology, an inherent property in light, exciting different vibrations, according to the different magnitude of its parts, in the fibres of the optic nerve, which being propagated to the sensorium, affect the mind with different sensations: or, according to others, it is only the reflection of light, variously changed by opake bodies, or even light itself.

The philosophers before Sir Isaac Newton's time supposed that all light, in passing out of one medium into another of different density, was equally refracted in the same or like circumstances: but that great philosopher hath discovered, that it is not so; but "That there are "different species of light; and that "each species is disposed both to suffer a "different degree of refrangibility in "passing out of one medium into another, "and to excite in us the idea of a differ"ent colour from the rest; and that bo"dies appear of that colour which arise "from the composition of the colours the "several species they reflect are disposed "to excite."

There are abundance of experiments for the confirmation of this doctrine, among which the following will serve sufficiently to illustrate the proposition, and evince the truth of it. And,

First, There are different species of light, and each species is disposed to suffer a different degree of refrangibility, and to excite the idea of a different colour. To shew this, let a room be darkened, and the sun permitted to shine into it thro' a small hole in the window-shutter, and be made to fall upon a glass prism: then

then will the ſun's light, in paſſing through this priſm, ſuffer different degrees of refraction, and, by that means, be parted into different rays; which rays, being received upon a clean white paper, will exhibit the following colours, *viz.* red, orange, yellow, green, blue, indigo, and a violet purple. Thus let A B (plate XLVI. fig. 1.) repreſent the window-ſhutter, C, the hole in it, DEF, the priſm, ZY, a ray of light coming from the ſun, which paſſes through the hole, and falls upon the priſm at Y, and if the priſm were removed, it would go on to X: but in entering its firſt ſurface E F, ſhall be refracted into the courſe Y W, fall upon the ſecond in W, where in going out into the air it ſhall be refracted again. Let the light now, after it has paſſed the priſm, be received upon a ſheet of white paper G H I K held at a proper diſtance, and it will exhibit upon the paper a picture or image at L M, of an oblong figure, whoſe ends are ſemicircular, and ſides ſtraight; and it ſhall be variegated with colours after the following manner.

From the extremity M, to ſome length, ſuppoſe to the line *n o*, it ſhall be of an intenſe red; from *n o* to *p q*, it ſhall be of an orange colour; from *p q* to *r s*, it ſhall be yellow; from thence to *t u*, it ſhall be green; from thence to *w x*, blue; from thence to *y z*, indigo; and from thence to the end, violet. And if the whole image be divided lengthwiſe into 360 equal parts, the red ſhall take up 45 of them; the orange, 27; the yellow, 48; the green, 60, the blue, 60; the indigo, 40; and the violet, 80.

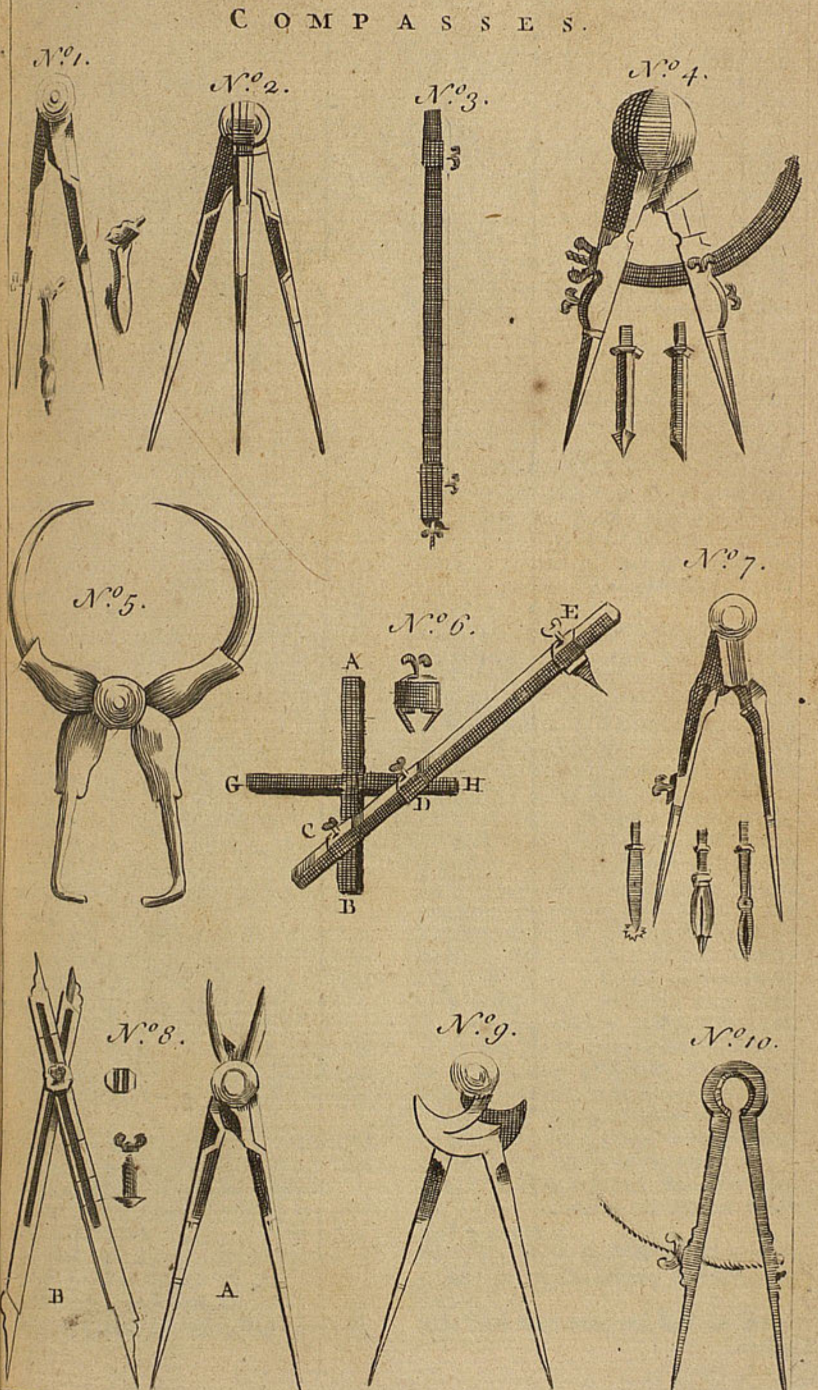
There are ſeveral experiments made which ſhew that the diſpoſitions of the rays of light, to produce ſome one colour, and ſome another, are not wrought by any action of the priſm upon them, but are originally inherent in thoſe rays; and that the priſm only affords each ſpecies an occaſion of ſhewing its diſtinct quality, by ſeparating them, one from the other, which before, while they were blended together in the unrefracted light of the ſun, lay concealed. See the articles LIGHT, REFLECTION, REFRACTION, and RAY.

From this doctrine it is clear, that each ſpecies of rays is diſpoſed to excite in us the idea of a different colour; and that this is the caſe, is confirmed by what follows, *viz.* That whatever ſpecies of rays are thrown upon any body, they make that body appear of their own colour. Thus minium in red light, appears of its own colour; but in yellow light, it appears yellow; and in green light, it appears green; in blue, blue; and in violet-purple coloured light, it appears of a purple colour. In like manner, verdigreaſe will put on the appearance of that colour in which it is placed: but each of theſe bodies appears moſt luminous and bright when enlightened with its own colour, and dimmeſt in ſuch as are moſt remote from that. It is certain, therefore, that each ray is diſpoſed to excite its own colour, which is neither to be altered by refraction nor reflection. This much in confirmation of the firſt part of the propoſition; and now we proceed to the ſecond part, *viz.* That bodies appear of that colour, which reſults from a compoſition of thoſe colours, which the ſeveral ſpecies they reflect are diſpoſed to excite. We will therefore proceed to ſhew, that other colours may be produced from a mixture of thoſe ſeven already mentioned, which rays of light, when ſeparated by a priſm, are diſpoſed to exhibit. From whence it will be rational to conclude, that bodies appear of that colour, which ariſes from the mixture of thoſe which they reflect.

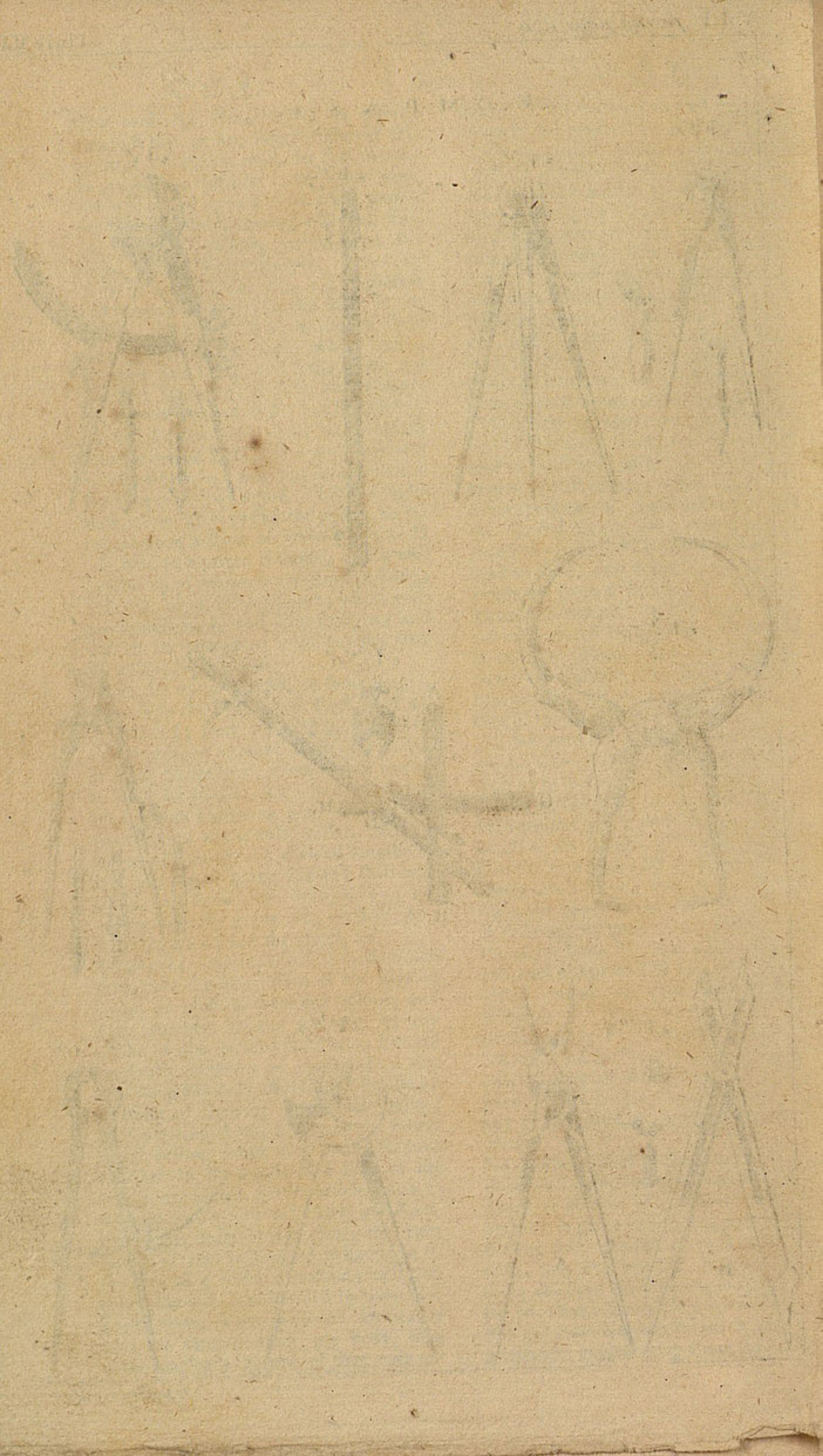
All the priſmatic colours mixed together appear white, a little inclining to yellow, ſuch as is that of the light of the ſun. To ſhew this, let a convex lens be placed between the priſm and the paper which receives the image, (*id. ibid.*) in order that the rays ſeparated by it may be collected into a focus; and let the focus fall upon the paper: then will the ſpot where it falls appear white; and if we remove the paper from the focal point, the ſame coloured image will be exhibited, but inverted, becauſe the rays croſs each other in the focus. But if the rays of any particular colour be intercepted before they are collected in the ſaid ſpot, it then not only appears of a different colour from what it did before, but different from any of the priſmatic colours taken ſeparately.

No compoſition of theſe colours will produce black; that being no colour, but the defect or abſence of all colour whatever.

What it is gives bodies this power of reflecting ſome one ſort of rays moſt copiouſly, and ſome another, is probably nothing elſe than the different magnitude of the particles whereof they are compoſed: this Sir Iſaac Newton thinks a probable ground for conjecturing about the magnitude



J. Jefferys sculp.



tude of the conftituent particles of bodies. The green of vegetables he takes to be of the third order, as likewife the blue of fyrup of violets: the azure colour of the fky he takes to be of the firft order, as alfo the moft intenfe and luminous white; but if it is lefs ftrong, he then conjectures it to be a mixture of the colours of all orders. Of the latter fort he takes the colour of linen, paper, and fuch like fubftances to be; but white metals to be of the former fort. For producing black, the particles muft be fmaller than for exhibiting any of the colours.

But that fome bodies reflect one fort of rays moft copioufly, and fome another, from no other reafon than the different magnitude of their conftituent particles, will appear hence:

If water be prepared with foap, fo as to render it fufficiently tenacious, and then blown up into a bubble, it is obfervable, that as the bubble grows thinner and thinner (as it will do by reafon of the water's continually running down from the top of it, till it breaks) different colours will arife, one after another, at the top of the bubble, fpreading themfelves into rings, and defcending till they vanifh at the bottom, in the fame order as they rofe at the top. Thus, in an experiment of this kind, tried by Sir Ifaac Newton, the colours arofe in this order, firft red, then blue; to which fucceeded red a fecond time, and blue immediately followed; after that, red a third time, fucceeded by blue; to which followed a fourth red, but fucceeded by green; after this a more numerous order of colours, firft red, then yellow, next green, and after blue, and at laft purple; then again red, yellow, green, blue, and violet followed each other; and the laft order of colour that arofe was red, yellow, white, and blue; to which fucceeded a dark fpot that afforded fcarce any light, though it was obferved to caufe fome very obfcure reflection, for the image of the fun or candle might be faintly difcerned in it; and this laft fpot fpread itfelf more and more till the bubble broke.

Colour, in painting, is applied both to the drugs, and to the tints produced by thofe drugs varioufly mixed and applied.

The principal colours ufed by painters are red and white lead, or cerufs; yellow and red ochres; feveral kinds of earth, umbre, orpiment, lamp-black, burnt ivory, black lead, cinnabar or vermillion, gumboge, lacca, blue and green afhes, verdigrife, biftre, bicce, fmalt, carmine, ultramarine: each of which, with their ufes, *&c.* are to be found under their proper articles.

Of thefe colours fome are ufed tempered with gum-water, fome ground with oil, others only in frefco, and others for miniature.

Painters reduce all the colours they ufe under thefe two claffes, of dark and light colours: dark colours are black, and all others that are obfcure and earthy, as umbre, biftre, *&c.*

Under light colours are comprehended white, and all that approach neareft to it.

Painters alfo diftinguifh colours into fimple and mineral.

Under fimple colours they rank all thofe which are extracted from vegetables, and which will not bear the fire; as the yellow, made of faffron, french berries, lacca, and other tinctures extracted from flowers ufed by limners, illuminers, *&c.*

The mineral colours are thofe which being drawn from metals, *&c.* are able to bear the fire, and therefore ufed by enamellers. Changeable and permanent colours is another divifion, which, by fome, is made of colours.

Changeable colours are fuch as depend on the fituation of the objects with refpect to the eye, as that of a pigeon's neck, taffeties, *&c.* the firft however being attentively viewed by the microfcope, each fibre of the feathers appears compofed of feveral little fquares, alternately red and green, fo that they are fixed colours.

Local Colours. See the article Local.

Water Colours. See the article Water.

Colour, in dying. There are, in the art of dying, five colours, called fimple, primary, or mother colours, from the mixture of which all other colours are formed; thefe are blue, yellow, brown, red, and black. Of thefe colours, varioufly mixed and combined, they form the following colours, panfy, blue, and red; from the mixture of blue and fcarlet are formed amaranth, violet, and panfy; from the fame mixture of blue, crimfon, and red, are formed the columbine & dove-colour, purple-crimfon, amaranth, panfy, and crimfon-violet.

Here it is to be obferved that they give the name crimfon to all colours made with cochineal.

Of blue and red madder is died purple, pepper colour, tan-colour, and dry-rofe colour.

The fame blue with red half in grain make,

makes amaranth, tan-colour, and dry-rose-colour.

Blue and half red-crimfon, compofe amaranth, tan-colour, dry-rofe, a brown panfy, and fun-brown.

Blue and yellow, mixed together, compofe a yellow-green, fpring-green, grafs-green, laurel-green, brown-green, dark-green; as well as fea-green, parrot-green, cabbage-green, &c. Thefe three laft colours are to be lefs boiled than the reft. It is to be noted, that as to green, there is no ingredient or drug in nature that will dye it; but the ftuffs are dyed twice, firft in blue, then in yellow.

Blue and brown. Thefe two colours are never mixed alone, but with the addition of red, either of madder or cochineal: they form feveral colours.

Red and yellow. All the fhades compofed of thefe two colours, as gold, yellow, aurora, marygold, orange, nacarat, granat-flower, flame-colour, &c. are made with yellow and red of madder, fcarlet being lefs proper as well as too dear.

Red and brown. Of thefe two colours are formed cinnamon-colour, chefnut, mufk, bear's hair, and even purple, if the red be of madder.

Yellow and brown. The colours formed from thefe two, are all the fhades of feuille-mort, and hair-colours. But this may be taken notice of, that though it be faid that there are no colours or fhades made from fuch and fuch mixtures, it is not meant that none can be made, but that they are more eafily formed from a mixture of other colours.

COLOUR, in heraldry. The colours generally ufed in heraldry are red, blue, black, green, and purple, which the heralds call gules, azure, fable, vert or finople, and purpure; tenne or tawny, and fanguine, are not fo common: as to yellow and white, called or and argent, they are metals not colours.

The metals and colours are fometime expreffed in blazon by the names of precious ftones, and fometimes by thofe of planets or ftars. See BLAZONING.

Oenomaus is faid to have firft invented the diftinction of colours, to diftinguifh the gundillæ of combatants of the circenfian games; the green for thofe who reprefented the earth, and blue for thofe who reprefented the fea.

COLOUR, in law, fome probable plea, though really falfe in itfelf, and only calculated to draw the trial of the caufe from the jury to the judge; for which reafon it ought to be matter in law, or doubtful to the jurors.

COLOUR *of office*, fignifies fome unjuft action done under countenance of an office, and is oppofed to *virtute officii*, which implies a man's doing a right and juft thing in the execution of his office.

COLOURS, in the military art, include the banners, flags, enfigns, &c. of all kinds, borne in the army or fleet. See the articles FLAG and STANDARD.

COLOUR-GOURD. See the article GOURD.

Field-COLOUR. See the article FIELD.

COLOURS, in the latin and greek churches, are ufed to diftinguifh feveral myfteries and feafts, celebrated therein.

Five colours only are regularly admitted into the latin church; thefe are white, green, red, violet, and black: the white is for the myfteries of our Saviour, the feafts of the virgin, thofe of the angels, faints, and confeffors; the red is for the myfteries and folemnities of the holy facrament, the feafts of the apoftles and martyrs; the green for the time between pentecoft and advent, and from epiphany to feptuagefima; the violet in advent and chriftmas, in vigils, rogations, &c. and in votive maffes in time of war; laftly, the black is for the dead, and the ceremonies thereto belonging.

In the greek church, the ufe of colours is almoft abolifhed, as well as among us: red was, in the greek church, the colour for chriftmas, and the dead, as black among us.

To COLOUR *ftrangers goods*, is when a freeman allows a foreigner to enter goods at the cuftom-houfe in his name.

COLOURING, among painters, the manner of applying and conducting the colours of a picture; or the mixtures of light and fhadows, formed by the various colours employed in painting.

The colouring is one of the chief branches in painting, which art is, by Mr. Felibien, divided into three parts, the defign, the compofition, and the colouring. See the article PAINTING.

Though the colouring ftrikes moft, yet, among mafters, it always gives place to the exactnefs of the defign. According to M. de Piles, the word colouring, in a more limited fenfe, is chiefly applicable to a hiftory-piece, fcarce at all to landfcapes: he adds, that the term relates more immediately to the carnations than to any thing elfe. The colouring, in its general fenfe, comprehends whatever relates

COMPOSITE ORDER

Corniche

Frieze

Architrave

Capital

Shaft

Base

Corniche

Dye

Base

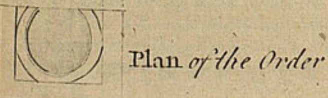
Capital

Column *containing 10 of its Diameters.*

Base

Pedestal

Height *proposed 31 Modules ⅔ divided into ninteen parts.*



Plan *of the Order*

J. Jefferys sculp.

lates to the nature and union of colours; their agreement or antipathy; how to uſe them to advantage in light and ſhadow, ſo as to ſhew a relievo in the figures, and a ſinking of the ground; what relates to the aerial perſpective, that is, the diminution of colours by means of the interpoſition of the air; the various accidents and circumſtances of the luminary, and the medium; the different light both of the bodies illuminating and illuminated; the reflections, ſhadows, and different views with regard to the poſition of the eye, or the object; what produces ſtrength, boldneſs, ſweetneſs, *&c.* in paintings, well coloured; the various manners of colouring, both in figures, landſcapes, *&c.*

The *coloris*, or colouring, is different from colour; the latter renders the object ſenſible to the eye; the former is that by which the painter knows how to imitate the colour of all natural objects, by a judicious mixture of the ſimple colours upon his pallet: it teaches the manner in which colours are to be uſed for producing thoſe fine effects of the *chiaro obſcuro*, light and ſhade, which add boldneſs and a kind of relievo to the figures, and ſhew the remoter objects in their juſt light.

For the effects of colours, painters regard either the union or the œconomy: with reſpect to the firſt, care muſt be taken that they be laid ſo as to be ſweetly united under the briſkneſs of ſome principal one; that they participate of the prevailing light of the piece; and that they partake of each other by the communication of light and the help of reflection.

For the œconomy in managing their degrees, regard is to be had to the contraſt or oppoſition intervening in the union of the colours; and, by a ſweet interruption, the briſkneſs, which otherwiſe fades and palls, may be raiſed to the harmony which makes the variety of colours agree; ſupplying and ſuſtaining the weakneſs of ſome by the ſtrength of others; neglecting ſome places on purpoſe to ſerve as a baſis or repoſe to the ſight; and to enhance thoſe which are to prevail throughout the piece. As to the degradation, where, the better to proportion the colours that fall behind, ſome of the ſame kind are to be preſerved in their purity, as a ſtandard for thoſe carried afar off, to be compared by, in order to juſtify the diminution; regard being always had to the quality of the air, which, when loaded with vapours, weakens the colours more than when clear: to the ſituation of the colours, where care muſt be taken that the pureſt and ſtrongeſt be placed before, or in the front of the piece; and that, by their force, the compound ones, which are to appear at a diſtance, be kept back, particularly the glazed colours, to be uſed in the firſt rank: laſtly, regard muſt be had to the expreſſion of the ſubject, and the nature of the matters or ſtuffs, whether ſhining or dull, opaque or tranſparent, poliſhed or rough.

COLOURING *and non-colouring drugs.* Into theſe dyers diſtinguiſh their drugs: the firſt are applicative, and communicate their colours to the matters boiled in them, or paſſed through them, as woad, ſcarlet-grain, cochineal, indigo, madder, turmeric, *&c.*

The ſecond ſerve to prepare and diſpoſe the ſtuffs and other matters, and to extract the colour out of the colouring ingredients; as alum, ſalt or cryſtal of tartar, arſenic, realgal, ſalt-petre, common ſalt, ſal ammoniac, ſal gemmæ, agaric, ſpirit of wine, bran, peas-flour, wheat, ſtarch, lime, and aſhes.

COLOURING *or* PAINTING *of glaſs.* See the article GLASS.

COLOURING *or* PAINTING *of porcelain.* See the article PORCELAIN.

COLOURING *of leather.* See LEATHER.

COLOURING *of marble.* See MARBLE.

COLT, in zoology, the ſame with foal, being the young of the horſe-kind. See the article FOAL.

COLT-EVIL, among farriers, a ſwelling of the yard and cods, incident both to ſtoned horſes and geldings; for which, after waſhing the parts with lukewarm vinegar, it is uſual to anoint them with juice of rue, mixed with honey, and boiled in hog's greaſe, adding bay-leaves and the powder of fenugreek.

COLT'S FOOT, in botany, the engliſh name of the tuſſilago. See TUSSILAGO.

COLTIE, a term uſed by timber-merchants for a defect, or blemiſh, in ſome of the annular circles of a tree, whereby its value is much diminiſhed.

COLUBER, in zoology, a very numerous genus of ſerpents, diſtinguiſhed by the following characters; the abdomen, or under part of the body, is covered with a great number of ſcuta, or hard cruſts; and the tail, on the contrary, with ſcales. Of this genus authors enumerate a great many ſpecies, diſtinguiſhed by the number of theſe ſcuta and ſcales, as the naja, lemniſcata, natrix, hippo, petola, ſibon, *&c.*

Befides thefe there are feveral very beautiful fpecies of coluber without particular names, two of which are reprefented in plate LIII. fig. 1.

COLUBRINUM LIGNUM, SNAKE-WOOD, in the materia medica, a woody fubftance of a tolerably firm and denfe texture, brought to us from the ifland of Timor, and fome other parts of the eaft, from a foot to near twice as much in length, and from an inch to four or five inches in diameter: it is more properly a root than a wood, though fo called; for what we receive is always the fmaller or middling branches of the root: the tree is a fpecies of that which produces the nux vomica. See the article *Nux* VOMICA.

The Indians are of opinion that this root is a remedy for the bite of a ferpent called cobra de capello. However this be, it is allowed to be a remedy for intermittents, and a deftroyer of worms: it operates differently, as taken in larger or fmaller dofes; fometimes by urine, fometimes by fweat, by ftool, or by vomit; the laft is the cafe when a large dofe is given: if yet larger, it brings on convulfions, and fometimes proves fatal. It is never given internally, till it has been kept fome years. We very feldom ufe it, being generally productive of convulfions or deliriums.

COLUMBA, PIGEON, in ornithology, a genus of pafferes, the characters of which are thefe, the beak is ftraight, and furaceous or fcaly towards the bafe; the noftrils are oblong, membranaceous, and half covered over; and the tongue is entire, or undivided.

To this genus belong all the kinds of domeftic pigeons, and the oenas, palumbus, and turtur. See the articles OENAS, &c. See alfo plate XLV. fig. 1. which reprefents the long-tailed, variegated, weft-indian dove, with a roundifh black fpot on each fide of the head.

COLUMBA GROENLANDICA, the SEA-TURTLE-DOVE, in ornithology, a fpecies of the colymbus or diver-kind, with three webbed toes on each foot. See the article COLYMBUS.

COLUMBINE, *aquilegia*, in botany. See the article AQUILEGIA.

COLUMBINE COLOUR, or DOVE-COLOUR, among painters, denotes a kind of violet.

COLUMBUS, or *Congregation of St.* COLUMBUS, a fociety of regular canons, who formerly had an hundred abbies or monafteries in the britifh iflands.

COLUMN, in architecture, a round pillar, made to fupport and adorn a building, and compofed of a bafe, a fhaft, and a capital. As every fulcrum is fo much the more perfect, as it is firm, or carries the appearance of firmnefs; hence all columns ought to have their bafe broader than themfelves. See BASE.

And as a cylinder and a quadrangular prifm are more eafily removed out of their place than a truncated cone, or a pyramid on the fame bafe, and of the fame altitude, the figure of columns ought not to be cylindrical, but grow lefs and lefs, like a truncated cone. Again, as columns are more firm if their diameter bears a greater proportion to their height than if it bore a lefs, the greater ratio is to be chofen where a large weight is to be fuftained; and lefs, where a fmall weight is to be fupported. Further, as the defign of a column is to fupport a weight, it muft never be fuppofed without an entablature.

Columns are different in the different orders of architecture, and may be confidered with regard to their matter, conftruction, form, difpofition, and ufe. With refpect to the order, we have

Tufcan COLUMN, that which has feven diameters in height, and is the fhorteft and moft fimple of all the columns. See the article TUSCAN ORDER.

Its diminution is one fourth, that is, the diameter at top is three fourths of the diameter juft above the bafe.

Doric COLUMN has eight diameters in height, and its capital and bafe more inriched with mouldings than the tufcan. It diminifhes one fifth part of the diameter at the bafe. See the article DORIC.

Ionic COLUMN has nine diameters in height, and differs from the others by the volutes in its capital, and by its bafe. It diminifhes one fixth part of the diameter at the bafe. See the article IONIC.

Corinthian COLUMN, the richeft and moft delicate of all, has ten diameters in height, and its capital adorned with two rows of leaves with caulicoles, from whence fpring fmall volutes. It diminifhes one feventh part of the diameter. See the article CORINTHIAN.

Compofite COLUMN has likewife ten diameters in height, and two rows of leaves in its capital, with angular volutes like the ionic. It diminifhes one eighth part of the diameter of the bafe. See the article COMPOSITE.

It may be obferved, that different authors give different heights and proportions to columns

columns of the fame order, and that frequently the fame author takes the liberty of difpenfing with his own rules; but that the heights and proportions exhibited above are a mean between the extremes of all the reft; in this we have followed Daviler and Mr. Perrault.

COLUMNS, *with regard to their matter are:*

Fufible COLUMN, comprehends not only columns of various metals, and other fufible matter, as glafs, *&c.* but alfo thofe of ftone, faid to be caft, the fecret of which fome believe to have been known to the antients.

Hydraulic COLUMN, that whofe fhaft appears to be of cryftal; being formed by a number of little threads of water, falling from holes made in a girt of metal, at equal diftances, by means of a pipe mounting through the middle of it. It alfo denotes a column from whofe top proceeds a jet d'eau, to which the capital ferves as a bafon, whence the water defcends by a little pipe, which turns fpirally round the fhaft.

Moulded COLUMN, that made by impaftation of gravel and flints of divers colours, bound together with a cement.

Water COLUMN, that whofe fhaft is formed of a large jet d'eau, which fpouting out water violently from the bafe, drives it within the tambour of the capital, which is hollow, and in falling down it refembles a column of liquid cryftal.

COLUMNS, *with regard to their conftruction.*

Cabled or *Rudented* COLUMN, that having projectures in form of cables, in the naked of the fhaft, each cable having an effect oppofite to that of a fluting, and accompanied with a little lift on each fide.

Coloffal COLUMN, one of fo large a fize as not to enter any ordinance of architecture, but defigned to be placed folitary in the middle of a fquare, *&c.* Such is the trajan column.

Corollotic COLUMN, that adorned with foliages, turned fpirally round the fhaft, or in form of crowns and feftoons; they are very proper for decorations of theatres.

Diminifhed COLUMN, that which has no fwelling, but begins to taper from the bafe, in imitation of trees.

Geminated COLUMN, that whofe fhaft is formed of three fimilar and equal fides or ribs of ftone, fitted within one another, and faftened at bottom with iron pins, and at top with cramp irons: it ought to be fluted, that the joints may be lefs difcernible.

COLUMN *of joinery*, that made of ftrong timber-boards, joined together: it is hollow, turned in the lathe, and ufually fluted: fuch are the columns of moft altar-pieces.

COLUMN *of mafonry* is made of rough ftone, well laid and covered with plaifter; or of bricks, laid triangular-wife, and covered with ftucco.

COLUMN *of tambours*, or *bands*, that whofe fhaft is formed of feveral courfes of ftone, or blocks of marble, lefs high than the diameter of the column.

COLUMN *in truncheons*, or *pieces*, confifts of two, three, or four pieces of ftone or metal, differing from the tambours as being higher than the diameter of the column.

COLUMNS *with regard to their form are:*

Fluted COLUMNS, called alfo channelled and ftriated columns, thofe whofe fhafts are adorned with flutes or channellings, either from top to bottom, or only two thirds of their height.

Gothic COLUMN, a round pillar, either two fhort for its bulk, or too flender for its height, having fometimes twenty diameters, without either diminution or fwelling, confequently differing widely from the proportions of the antique.

Hermetic COLUMN, a kind of pilafter, in manner of a terme, having the head of a man in lieu of a capital. It is fo called becaufe the antients placed on the top of fuch columns the head of Mercury.

Maffive COLUMN, one too fhort for the order, the capital of which it bears: it likewife comprehends tufcan and ruftic columns.

Oval COLUMN, that whofe fhaft has a flatnefs, its plan being made oval, to reduce the projecture.

Paftoral COLUMN, that whofe fhaft is formed in imitation of a trunk of a tree, with bark and knots. It may be ufed in the gates of parks and gardens, and in the decoration of paftoral fcenes, *&c.*

Serpentine COLUMN, that formed of three ferpents twifted together, the heads of which ferve as a capital: it is now called the talifman or enchanted column.

Swelled COLUMN, that which has a bulging in proportion to the height of the fhaft. This practice obtains among the modern architects, but feems to have been unknown to the antients.

Twifted COLUMN, that whofe fhaft is twifted round in form of a fcrew, with fix circumvolutions, being ordinarily of the corinthian order. Sometimes the twifted column is in form of two or three flender fhafts twifted round, fo as to leave a cavity in the middle.

COLUMNS, *with regard to their dispofition.*

Angular COLUMN is an infulated one, placed in the corner of a portico, or inferted in the corner of a building, or even a column that flanks any angle of a polygon.

Attic COLUMN, according to Pliny, is an infulated pilafter having four equal faces, and of the higheft proportion.

Cantoned COLUMNS are thofe engaged in the four corners of a fquare pillar, to fupport four fprings of an arch.

Coupled COLUMNS, thofe difpofed two and two, fo as almoft to touch each other at their bafes and capitals.

Doubled COLUMN, one column joined with another in fuch a manner, that the two fhafts penetrate each other with a third of their diameter.

Engaged COLUMN, that which enters in a wall with one third or one fourth of its diameter.

Grouped COLUMNS, thofe placed on the fame pedeftal or focle, either by three and three, or four and four.

Infulated COLUMN, one ftanding free and detached from every other body.

Median COLUMNS, a name given by Vitruvius to the two columns in the middle of a porch, which have their intercolumination larger than the reft. The term may alfo be applied to the middle row of columns in a frontifpiece adorned with three orders.

Niched COLUMN, that whofe fhaft enters with half its diameter into a wall, hollowed out for its reception with its plane parallel to the projecture of the tore.

COLUMNS *with regard to their ufe,* are either, 1. Aftronomical columns, fuch as that at Paris erected for aftronomical obfervations. 2. Chronological column. 3. Funeral column, which generally bears an urn, and has its fhaft overfpread with fymbols of grief and of immortality. 4. Gnomonic column, a cylinder, upon which the hour of the day is reprefented by the fhadow of a ftyle: of thefe there are two kinds; in the one the ftyle is fixed, and the hour-lines are no more than the projection of a vertical dial upon a cylindrical furface: in the other, the ftyle is moveable, and the hour-lines are drawn to the different heights of the fun in the different feafons of the year. 5. Hiftorical column, that whofe fhaft is adorned with a baffo relievo, running in a fpiral line its whole height, and containing the hiftory of fome great perfonage. 6. Hollow column, that which has a fpiral ftair-cafe within-fide, for the conveniency of afcending to the top. 7. Indicative column, that which ferves to fhew the tides along the fea-coafts. 8. Inftructive column, that which conveys fome precept or inftruction, fuch as that raifed by the fon of Pififtratus at Athens, containing the rules of agriculture. 9. Itinerary column, one with feveral faces, placed in the croffing of feveral roads, ferving to fhew the different routes by the infcriptions engraved upon each of its faces. 10. Lactary column, at Rome, a column, according to Feftus, in the herbmarket, in the pedeftal of which was a cavity, wherein young children, abandoned by their parents, out of poverty or inhumanity, were expofed to be educated at the expence of the public. 11. Legal column, among the Lacedemonians, that erected in a public place, upon which were engraven the fundamental laws of the ftate. 12. Limitrophous or boundary column, that which fhews the limits of a kingdom, or country conquered. Thofe called the columns or pillars of Hercules, are two very fteep mountains in the ftreights of Gibraltar. 13. Luminous column, one formed in a cylindrical frame, mounted and covered over with oiled paper or gauze, fo that lights being difpofed in ranks within over each other, the whole appears to be on fire. 14. Manubiary column, a column adorned with trophies built in imitation of trees, whereon the fpoils of enemies were antiently hung. 15. Memorial column, that raifed on occafion of any remarkable event, as the monument in London, built to perpetuate the memory of the burning of that city in 1666. 16. Menian column, any column that fupports a balcony or meniana. 17. Miliary column, a column of marble raifed by order of Auguftus in the middle of the roman forum, from whence, as a center, the diftances of the feveral cities of the empire were reckoned by other miliary columns, difpofed at equal diftances on all the grand roads. 18. Roftral column, that adorned with the peaks or prows of fhips, &c. erected either in memory of a naval victory, or in honour of fome admiral, &c. 19. Statuary column, that which fupports a ftatue. 20. Symbolical column, that reprefenting by fymbols fome particular country, or fome memorable action. 21. Triumphal column, that erected by the antients in honour of an hero; the joints of the ftones or courfes of which were covered

vered with as many crowns, as he had made different military expeditions. 22. Zoophoric column, a kind of ſtatuary column, bearing the figure of ſome animal.

Scenography of a COLUMN. See the article SCENOGRAPHY.

COLUMN, among printers, is half a page, when the page is divided into two parts from top to bottom.

COLUMN in the military art, a long deep file of troops or baggage.

The firſt and ſecond lines of the army as they are encamped, make generally two columns on a march, filing off either from the right or left: ſometimes the army marches in four, ſix, or eight columns, according as the ground will allow; and each column is led by a general officer.

COLUMNA, in anatomy, a term applied to different parts: thus the *columna naſi*, is the loweſt and fleſhy part of the noſe which forms a part of the ſeptum; and the *columna oris*, is the ſame with the uvula. See the articles SEPTUM and UVULA.

The columnæ cordis are ſmall, long, and round fleſhy productions in the ventricles of the heart. See the article HEART.

COLUMNAR, ſomething reſembling or conſiſting of columns. See COLUMN.

CULUMNAR-MARBLE, the ſame with the baſaltes. See the article BASALTES.

COLUMNEA, in botany, a genus of plants of the didynamia-angioſpermia claſs, the flower of which is monopetalous and ringent: the fruit is a globoſe, bilocular berry, containing numerous oblong ſeeds.

COLUMNIA, or KOLOMNA, a city of Ruſſia, in the province of Moſcow, ſituated at the confluence of the rivers Moſcow and Occa, about forty miles ſouth-eaſt of the city of Moſcow: eaſt long. 40°, north lat. 56°.

COLURES, in aſtronomy and geography, two great circles ſuppoſed to interſect each other at right angles in the poles of the world, and to paſs through the ſolſtitial and equinoctial points of the ecliptic. That which paſſes through the two equinoctial points, is called the equinoctial colure, and determines the equinoxes; and the other which paſſes through the poles of the ecliptic, is called the ſolſtitial colure, becauſe it determines the ſolſtices. See EQUINOX and SOLSTICE.

COLURI, a little iſland in the gulph of Engia, in the Archipelago, about ſeven miles ſouth of Athens; of this iſland Ajax was ſovereign: eaſt longitude 24°, north latitude 38°.

COLUTEA, BASTARD SENA, in botany, a genus of the deadelphia-dicandria claſs of plants, the flower of which is papilionaceous, and its fruit a very large, broad, inflated, compreſſed legume, with the ſuperior ſuture erect, and the inferior one gibbous: it contains only one cell, wherein are ſeveral ſeeds of a kidney ſhape. See plate LXIII. fig. 2.

The leaves, but eſpecially the ſeeds of the colutea, purge with great violence, and therefore ought only to be adminiſtered to ſtrong conſtitutions, and then with good correctives.

COLYBA, or COLYVA, among the greek chriſtians, is a large diſh of boiled wheat garniſhed with blanched almonds, raiſins, and pomegranates, and ſtrewed round with odoriferous herbs, which is offered in honour of the ſaints at the interment of the dead. The colyva is carried by the ſexton or grave-digger, preceded by an attendant bearing two large wooden flambeaux gilt, and adorned with lace and ribbands. He is followed by two waiters loaded with bottles of wine and baſkets of fruit, and a third carrying a carpet, which is to be ſpread over the tomb of the deceaſed, and to ſerve as a table-cloth for the funeral entertainment. The prieſt hath a large ſhare of this collation; and the reſt, after the friends of the deceaſed have feaſted on it, is diſtributed among the poor.

COLYMBUS, DIVER, in ornithology, a genus of anſeres, with a ſubulated, compreſſed beak, longer than the head, and without teeth: add to this, that the feet are placed very far backward, ſo as to be fitter for ſwimming than ſtanding or walking.

To this genus belong the lumme, or mergus maximus; the creſted diver, colymbus criſtatus vel cornatus; the trapazorola; and the columba groenlandica. See the article LUMME, DIVER, *&c.*

The creſted colymbus, called alſo the great didapper, or creſted loon, is repreſented in plate XLIV. fig. 5.

COLYVA, or COLYBA. See COLYBA.

COMA, or COMA-VIGIL, a preternatural propenſity to ſleep, when nevertheleſs the patient does not ſleep, or if he does, awakes immediately without any relief. This diſorder is always ſymptomatic, and often attends acute, burning, and malignant fevers; as alſo an inflammation of the dura mater, and uſhers in a phrenzy.

phrenzy. Sometimes it attends an hemiplegia.

For the cure of the coma-vigil, if the fever has not continued above the third or fourth day, it is expedient to take away a large quantity of blood; then the body, if coftive, muft be opened with clyfters, which muft not be very acrid; afterwards diluters and refrigerants fhould be given to moderate the febrile heat, fuch as abforbent powders, gentle nitrous medicines, taken in a draught with diaphoretic antimony, &c.

COMA-SOMNOLENTUM, is when the patient continues in a profound fleep, and when awaked, immediately relapfes, without being able to keep open his eyes. This is a primary difeafe, and muft have a caufe which obftructs the paffage of the nervous fluid from the cortical part of the brain to the medulla oblongata throughout the whole brain.

A coma-fomnolentum, is divided into ferous and fanguine. The firft requires the natural ferous evacuations to be reftored or promoted. Gouty fits are to be invited. Sternutatories are alfo of great ufe, as they difcharge the ferum thro' the nofe, and ftimulate the nerves: and when a vifcid phlegm offends the ftomach, vomits are ufeful, with powder of fquills, or emetic tartar, with a laxative potion. In a fanguine coma fomnolentum, when the blood circulates flowly, or ftagnates in the head, as in hypochondriac or fcorbutic cafes, all hot fpirituous remedies are as bad as poifon: but bleeding, clyfters, gentle laxatives, cooling and nervous powders, are ufeful.

COMA BERENICES, BERENICE'S HAIR, in aftronomy, a conftellation of the northern hemifphere compofed of ftars, near the lion's tail.

This conftellation confifts of three ftars, according to Ptolemy; of thirteen, according to Tycho; and of forty, in the britannic catalogue.

COMARUM, in botany, a genus of plants of the icofandria-pentagynia clafs; the flower of which confifts of five oblong, acuminated petals, three times lefs than the cup in which they are inferted: there is no pericarpium, but a fcrotiform, flefhy receptacle which contains numerous acuminated feeds.

COMB, an inftrument to clean, untangle, and drefs flax, wool, hair, &c.

Combs for wool, are prohibited to be imported into Britain.

COMB is alfo the creft or red flefhy tuft growing upon a cock's head.

COMB, in a fhip, a little piece of timber fet under the lower part of the beak-head, near the middle: it has two holes in it, and fupplies to the fore-tacks what the cheft-trees do to the main-tacks, that is, to bring the fore-tacks aboard.

Lady's COMB, or *Venus's* COMB, in botany, the fame with the fcandix. See the article SCANDIX.

Honey-COMB. See HONEY-COMB.

COMB-FISH, *pecten*, in the hiftory of fhell-fifh. See the article PECTEN.

COMBAT, in a general fenfe, denotes an engagement, or a difference decided by way of arms. See the article BATTLE.

COMBAT, in our antient law, was a formal trial of fome doubtful caufe or quarrel by the fwords or baftons of two champions. This form of proceeding was very frequent not only in criminal but in civil caufes; being built on a prefumption, that God would never grant the victory but to him who had the beft right. The laft trial of this kind in England, was between Donald lord Rae, appellant, and David Ramfay, efq; defendant, in the fixth year of the reign of Charles I. when after many formalities, the matter was referred to the king's pleafure. See TRIAL and CHAMPION.

COMBATANT, in heraldry, a term for two beafts, as lions, &c. borne in a coat of arms in a fighting pofture, with their faces to each other.

COMBINATION, properly denotes an affemblage of feveral things two by two.

COMBINATION, in mathematics, is the variation or alteration of any number of quantities, letters, founds, or the like, in all the different manners poffible.

F. Truchet, in the memoirs of the french academy, fhews that two fquare pieces, each divided diagonally into two colours, may be combined 64 different ways, fo as to form fo many different kinds of chequer-work; which appears furprizing enough, when one confiders that two letters or figures can only be combined twice. See the article CHANGES.

F. Merfenne gives us the combinations of all the notes and founds of mufic as far as 64; the fum whereof amounts to 90 figures or places.

Doctrine of COMBINATION. Prob 1. Any number of quantities being given, together with the number in each combination, to find the number of combinations.

One

One quantity admits of no combination: two, a and b, only of one combination; of three quantities, $a\,b\,c$, there are three combinations, *viz.* ab, ac, bc: of four quantities, there are ſix combinations, *viz.* ab, ac, ad, bc, bd, cd: of five quantities, there are ten combinations, *viz.* ab, ac, bc, ad, bd, cd, ae, be, ce, de. Hence it appears, that the numbers of combinations proceed as 1. 3. 6. 10. that is, they are triangular numbers, whoſe ſides differ by unity from the number of given quantities. If this then be ſuppoſed q, the ſide of the number of combinations will be $q-1$, and ſo the number of combinations $\frac{q-1}{1}, \frac{q+0}{2}$. See the article TRIANGULAR *Numbers*.

If three quantities are to be combined, and the number in each combination be three, there will be only one combination $a\,b\,c$; if a fourth be added, four combinations will be found $a\,b\,c$, $a\,b\,d$, $b\,c\,d$, $a\,c\,d$; if a fifth be added, the combinations will be ten, *viz.* $a\,b\,c$, $a\,b\,d$, $b\,c\,d$, $a\,c\,d$, $a\,b\,e$, $b\,d\,e$, $b\,c\,e$, $a\,c\,e$, $a\,d\,e$; if a ſixth, the combinations will be twenty, &c. The numbers, therefore, of combinations proceed as 1. 4. 10. 20. &c. that is, they are the firſt pyramidal triangular numbers, whoſe ſide differs by two units from the number of given quantities. Hence if the number of given quantities be q, the ſide will be $q-2$, and ſo the number of combinations $\frac{q-2}{1}, \frac{q-1}{2}, \frac{q+0}{3}$.

If four quantities are to be combined, we ſhall find the numbers of combinations to proceed as pyramidal triangular numbers of the ſecond order, 1. 5. 15. 35. &c. whoſe ſide differs from the number of quantities by the exponent minus an unit. Wherefore if the number of quantities be q, the ſide will be $q-3$, and the number of combinations $\frac{q-3}{1}, \frac{q-2}{2}, \frac{q-1}{3}, \frac{q+0}{4}$. See PYRAMIDAL *numbers*.

Hence is eaſily deduced a general rule of determining the number of combinations in any caſe whatſoever. Suppoſe, for example, the number of quantities to be combined q, and the exponent of combination n; the number of combinations will be $\frac{q-n+1}{1}, \frac{q-n+2}{2}, \frac{q-n+3}{3}, \frac{q-n+4}{4}$ &c. till the number to be added be equal to n. Take $q=6$ and $n=4$, the number of combinations will be $\frac{6-4+1}{1}. \frac{6-4+2}{2}. \frac{6-4+3}{3}. \frac{6-4+4}{4}. = \frac{6-3}{1}. \frac{6-2}{2}. \frac{6-1}{3}. \frac{6+0}{4}. = \frac{3}{1}. \frac{4}{2}. \frac{5}{3}. \frac{6}{4}. = 15$.

If it be required to know all the poſſible combinations of the given quantities, beginning with the combinations of the ſeveral two's, then proceeding to threes, &c. we muſt add $\frac{q-1}{1}. \frac{q+0}{2}$, $\frac{q-2}{1}. \frac{q-1}{2}. \frac{q+0}{3}$, $\frac{q-3}{1}. \frac{q-2}{2}. \frac{q-1}{3}. \frac{q+0}{4}$, &c. Whence the number of all the poſſible combinations will be $\frac{q}{1}. \frac{q-1}{2} + \frac{q}{1}. \frac{q-1}{2}. \frac{q-2}{3} + \frac{q}{1}. \frac{q-1}{2}. \frac{q-2}{3}. \frac{q-3}{4} + \frac{q}{1}. \frac{q-1}{2}. \frac{q-2}{3}. \frac{q-3}{4}. \frac{q-4}{5}$. which is the ſum of the unciæ of the binomial raiſed to the power q, and abridged of the exponent of the power encreaſed by unity $q+1$. Wherefore ſince theſe unciæ come out $1+1$ by being raiſed to the power q; and ſince $1+1$ is equal to 2, $2^q - q - 1$ will be the number of all the poſſible combinations. For example, if the number of quantities be 5, the number of poſſible combinations will be $2^5 - 6 = 32 - 6 = 26$.

Prob. 2. Any number of quantities being given, to find the number of all the changes, which theſe quantities, combined in all the manners poſſible, can undergo. Let there be two quantities a and b, their variations will be two; conſequently, as each of them may be combined with itſelf, to theſe there muſt be added two variations more. Therefore the number of the whole will be $2+2=4$. If there were three quantities, and the exponent of the variation 2, the combinations will be 3, and the changes 3; to wit, ab, ac, bc, and ba, ca, cb; to which if we add the three combinations of each quantity with itſelf aa, bb, cc, we ſhall have the number of changes $3+3+3=9$.

In like manner, it is evident, if the given quantities were 4, and the exponent 2, that the number of combinations will be 6, and the number of changes likewiſe 6, and the number of combinations of each quantity

quantity with itſelf 4, and therefore the number of changes 16; if with the ſame exponent the given quantities were five, the number of changes would be 25; and in general, if the number of the quantities were n, the number of changes would be n^2.

Suppoſe the quantities 3, and the exponent of variation 3, the number of changes is found $27=3^3$, *viz.* *aaa, aab, aba, baa, aac, aca, caa, abb, bab, bba, abc, bac, bca, acb, cab, cba, acc, cac, cca, bbb, bbc, cbb, bcb, bcc, cbc, ccb, ccc.* In like manner it will appear, if the quantities were 4 and the exponent 3, that the number of changes would be $64=4^3$; and in general, if the number of quantities was $=n$, and the exponent 3, the number of changes would be n^3.

By proceeding in this manner, it will be found, if the number of quantities be n, and the exponent n, that the number of changes would be n^n. Wherefore, if all the antecedents be added, where the exponent is leſs, the number of all the poſſible changes will be found $n^n+n^{n-1}+n^{n-2}+n^{n-3}+n^{n-4}$, &c. till the number ſubtracted from n leaves 1, becauſe the beginning is from ſingle quantities taken once.

Since, then, the number of all poſſible changes is in a geometrical progreſſion, the firſt or ſmalleſt term of which is n^1, the largeſt n^n, and the denominator n; it will be equal $(n^{n+1}-n)\div(n-1.)$ Suppoſe $n=4$, the number of all poſſible variations will be $(4^5-4)\div(4-)=\frac{1020}{3}=320$.

Suppoſe again $n=24$, the number of all the poſſible variations will be $(24^{25}-24)\div(24-1)=32009658644406818986777955348250600$ divided by $23=1391724288887252999425128493402200$. In ſo many various methods may the 24 letters of the alphabet be varied and combined among themſelves.

COMBINATORY, in general, denotes ſomething belonging to combination. See the preceding article.

COMBINATORY DISTILLATION, a method of rectifying ſpirits, much practiſed by diſtillers, by diſtilling ſeveral ingredients along with the ſpirits: ſuch are alkaline ſalts, and ſpirits, and other ſaline bodies capable of giving the ſpirits a good flavour. This method is condemned by Dr. Shaw; ſince theſe ingredients mix themſelves ſo intimately with the ſpirits, as not to be eaſily ſeparated again: hence, inſtead of rectifying or improving, they prevent the true and genuine taſte of the ſpirits.

COMBING *of wool*, in commerce, the drawing wool acroſs the teeth of a card called a comb, to diſpoſe it for ſpinning.

COMBUST, an appellation given to a planet, when in conjunction with, or not diſtant above eight degrees and thirty minutes from the ſun: ſome reſtrain the term combuſt, to the diſtance of half their diſk.

COME, an appellation by which the ſmall fibres of malt are called. See MALT.

COMEDY, is a ſort of dramatic poetry which gives a view of common and private life, recommends virtue, and expoſes the vices and follies of mankind in a humorous and merry way. Scaliger defines comedy a dramatic poem, repreſenting the buſineſs of life, whoſe event is fortunate and ſtile familiar. Voſſius defines it a dramatic poem, copying the actions of the principal citizens and common people in a familiar ſtile, and not without mirth and raillery.

Critics are much divided about the nature of comedy. Ariſtotle calls it an imitation of the worſt, or rather, of the loweſt claſs of perſons by way of ridicule. Mr. Corneille finds fault with this, and maintains, that the actions of kings themſelves may enter comedy, provided they be ſuch as are not very momentuous, nor attended with any conſiderable danger. Mr. Congreve ſeems pretty much of the ſame ſentiment. But Mr. Dacier is of a contrary opinion: he maintains, that comedy allows of nothing grave or ſerious, unleſs it be turned to ridicule; and that raillery and ridicule are its only proper and genuine marks. Thus different are critics on the nature of comedy: nor are they better agreed concerning the characteriſtic which diſtinguiſhes it from tragedy. Some diſtinguiſh it by the lowneſs of the ſubject; others, by the ridiculous light it is ſet in. According to F. Boſſu, comedy differs from tragedy in this, that the comic writer invents both the names of his perſons, and the action which he preſents; whereas the tragic writers invent only the latter; the former they are to take from hiſtory.

Comedy has parts of quality and parts of quantity. Of the firſt kind there are four eſſential, the fable, the manners, the ſenti-

fentiments, and the diction; to which two are added which only relate to the reprefentation, *viz.* the mufic and decoration. See FABLE, MANNERS, &c.

The parts of quantity are alfo four. 1. The entrance. 2. The working up of the plot. 3. The full growth of the plot, or the counter turn. 4. The difcovery or unravelling of the plot. Thefe, in the language of the antients, are called the protafis, epitafis, cataftafis and cataftrophe. See the articles PROTASIS, EPITASIS, ACT, &c.

With regard to the various revolutions comedy has undergone, it is commonly diftinguifhed into three kinds, *viz.* the antient, the middle, and the new. The antient comedy was fharp, fatirical, and extremely abufive; even men of the firft rank, if they were fufpected of any criminal behaviour, whether the facts were true or falfe, were brought upon the ftage without any difguife, called by their own names, and ufed as feverely as poffible. Thus in the comedy of the clouds, Ariftophanes brings Socrates in by name. Indeed this liberty of abufe was allowed chiefly to the chorus, and was moft ufed during the democracy of the Athenians, efpecially in the time of the peloponnefian war. But when the thirty tyrants had feized the government, the middle comedy commenced; for it being no longer fafe for the poets to rail at people in authority, and openly to charge magiftrates with crimes, they ftill continued to ridicule the follies and expofe the vices of particular perfons under fictitious names; by which the perfons were fo well pointed out, that it was no difficult matter to know them. At length, however, they were obliged, in the reign of Alexander the Great, to reprefs even this licenfe: and this reformation gave occafion to the new comedy, which only brought upon the ftage feigned adventures, and imaginary names.

This laft kind alone was received among the Romans, who neverthelefs made a new fubdivifion of it into antient, middle and new, according to the various periods of the commonwealth. Among the antient comedies were reckoned thofe of Livius Andronicus; among the middle, thofe of Pacuvius; and among the new ones, thofe of Terence. They likewife diftinguifhed comedy according to the quality of the perfons reprefented; and the drefs they wore, into togatæ, prætextatæ, trabeatæ, and tabernariæ, which laft agrees pretty nearly with our farces. Among us, comedy is diftinguifhed from farce, as the former reprefents nature as fhe is, the other diftorts and overcharges her. They both paint from the life, but with different views: the one to make nature known, the other to make her ridiculous.

COMERCY, a city of Lorrain, in France, twenty miles weft of Nancy: eaft long. 5°. 26', north lat. 48° 45'.

COMES, in zoology, a fpecies of butterfly, with four legs, and erect, roundifh wings.

COMET, an opake, fpherical, and folid body like a planet, performing revolutions about the fun in elliptical orbits, which have the fun in one of the foci.

The antients were divided in their opinions concerning them; fome confidering them as wandering ftars; others, as meteors kindled in the atmofphere of the earth, fubfifting for a time, and then diffipated; others looked upon them as prodigies. But it is put beyond doubt by the more accurate obfervations of the late aftronomers, that they are a kind of planets. That they are not meteors, is obvious; for if they were, they could not bear that vaft heat which fome of them in their perihelia receive from the fun. The great comet which appeared in the year 1680, was within a fixth part of the fun's diameter from its furface, and therefore muft acquire a degree of heat intenfe beyond all imagination.

But that comets are not only above the air, but alfo beyond the moon, is plain; becaufe comets feen from diftant places, are obferved to be at the fame diftance from a fixed ftar which is near them. As for example, the comet which Tycho Brahe obferved at Uraniburg, was likewife feen by Hagecius at Prague in Bohemia at the fame time; which two places differ fix degrees in latitude, and are nearly under the fame meridian, and both meafured the diftance of this comet from the ftar we call the vultur; that is, how much it was below it towards the horizon, for both the vultur and comet were in the fame vertical circle, and both obfervators found their diftances the fame, and confequently they both viewed the comet in the fame point of the heavens; which could not be, unlefs it had been higher than the moon.

The figures of comets are obferved to be very different, for fome of them throw forth beams like hair every way round them, and thefe are called hairy comets. Others

Others again have a long beard, or rather a fiery tail, oppofite to the region in which the fun is feen; and they are called bearded, or comets with tails. Their magnitude has alfo been obferved to be very different; many of them without the hair, appear no bigger than ftars of the firft magnitude. But fome authors have given us an account of others which were much greater: fuch was that which appeared in the time of the emperor Nero, which, as Seneca relates, was not inferior in magnitude to the fun itfelf. In like manner, the comet which Hevelius obferved in the year 1652, did not feem to be lefs than the moon, though it had not fo bright a fplendor; for it had a pale and dim light, and appeared with a difmal afpect. Moft have a denfe and dark atmofphere furrounding their bodies, which weakens and blunts the fun's rays; but within it, appears the nucleus or folid body of the comet, which when the clouds are difperfed, gives a fplendid and brifk light.

The particulars in which comets differ from planets are, that they move in various directions, fome the way with the planets, others the contrary; neither are their motions confined within the zodiac, their orbits admitting of any inclination to the ecliptic whatever. And the eccentricity of their orbits is fo very great, that fome of the comets perform the greateft part of their motion almoft in right lines, tending in their approach to the fun almoft directly towards it, after which they pafs it; and when they leave it, march off again nearly in a right line till they are out of fight, as if they were haftening back to the fixt ftars. As they approach the fun, their motion grows proportionably fwifter; for they defcribe equal areas in equal times about its center as the planets do. Hence it is, that when they are in their perihelia, their motion is immenfely fwifter than when they are in their aphelia. This will better appear from the following demonftration. Let S (plate XLVI. fig. 2.) be the fun, A P D G the elliptic orbit of a comet, T C E the orbit of the earth. If we fhould fuppofe the femi-axis of the comet's orbit to be 100 times greater than the femi-axis of the earth's orbit, or, which is the fame, than its mean diftance from the fun, that comet would not complete its revolution in lefs than 1000 years; for the fquares of the periodical times of the earth and comet, muft be as the cubes of their mean diftances from the fun: and the comet becomes vifible only for that part of its period, wherein it defcends towards the fun and approaches near the earth, as in F, and then after it has paffed its perihelion, conftantly rifing higher from the fun about G, it will begin to vanifh, and will not be vifible without a telefcope. If the aphelion diftance be to the perihelion as 1000 is to one, the velocity of a comet in the perihelion, will bear the fame proportion to the velocity at the aphelion. For the area A S B, muft be but equal to the area P S D, if the arches A B and P D be defcribed by the comet in equal times, and then the arch P D muft be greater than A B, in the fame proportion as A S is greater than P S. This is the proportion of their abfolute velocities. But their angular velocities about the fun, are in a duplicate proportion of thefe diftances, or as 1000000 to 1. So that while the comet in its perihelion defcribes one degree with its angular motion, where it afcends to its aphelion, it will defcribe in an equal time but $\frac{1}{1000000}$ of a degree. Hence then is feen the caufe why comets are vifible to us for fo fhort a time, and when they difappear, why they are fo long before they vifit us again. This alfo deftroys the objection again the return of comets drawn from the rarity of their appearance.

As the elliptic orbit of a comet is fo very eccentric, that portion of it wherein it becomes vifible to us, may pafs for a parabola. By confidering therefore, that portion as a piece of a parabola near its vertex, the calculation of their motions becomes much eafier; and upon that hypothefis Dr. Halley has conftructed and calculated a table, by which, whenever a new comet fhall appear, it may be determined whether it be any of thofe which have yet appeared, and confequently its period, and the axis of its orbit be determined, and its return foretold. From this table, it would appear that the comet which was feen in the year 1682, was the fame obferved before in 1607 and 1531, and was alfo expected in the year 1758, after a period of feventy-five and feventy-fix years alternately; but though a comet was indeed obferved in the year 1758, it does not by any means appear to have been that predicted by Dr. Halley, and expected by aftronomers, which

which furnishes a great objection to the theory of comets, and the stated and periodical returns of these bodies.

By the same table, it would also appear, that the great comet which was seen in the year 1680, was the same seen in the time of king Henry I. in 1106, and in 531, and in the forty-fourth year before Christ, when Julius Cæsar was murdered. If so, then the period of this comet is about 575 years. There are between twenty and thirty that have appeared since the year 1337, but no two appearances seem to belong to the same comet, except those above-mentioned.

The phænomena of comets which arise from the motion of the earth, agree in a great measure with those of the planets. For instance, those comets which move according to the order of the signs, a little before they disappear, become more than ordinarily slow or retrograde, if the earth at that time be between them and the sun, but more than ordinary swift, if the earth be on the opposite side: and the reverse of this happens to those which move contrary to the order of the signs. This is occasioned by the motion of the earth; for when the earth goes the same way with a comet, but with a swifter motion, the comet seems retrograde; when with a slower motion, the comet's apparent motion becomes slower; and when the earth moves the contrary way, it becomes swifter. See the articles RETROGRADATION and PLANET.

Few comets are to be seen in their access to the sun, but in their recess appear with long fiery tails, pointing directly, or nearly so, towards that part of the heavens which with respect to the comet is opposite to the sun. Some are visible before they reach the sun, and begin to put forth their tails, which at first are short and thin, seldom exceeding fifteen or twenty degrees in length, but grow longer and denser as the comet comes nearer the sun. If the comet passes very near the sun, it then sends forth fiery beams of light every way. After this it puts forth a tail forty, fifty, or sixty degrees long, which, as the comet recedes farther from the sun, continually diminishes both in length and splendor; but is larger and longer at any distance in its recess from the sun, than at an equal distance in its access to it.

In order to account for the formation of the tails of comets, some have supposed that the heads of comets are transparent, and that their tails are no other than a beam of the sun transmitted through them. But were the heads of comets transparent, they themselves would be scarcely visible. Others, that they arise from the refraction of the rays of light in their way from the comet to us. But if so, then both the planets and fixed stars ought to have tails also. Kepler ascribed the ascent of the tails to the rays of the sun carrying the particles of the comet's amosphere with them; that is, impelling them into the regions opposite to it. But we have no instance of any thing in nature like this: it is therefore an hypothesis that cannot be supported. Sir Isaac Newton thinks the great splendor and length of the tails, arises from the heat which the sun communicates to the comet as it passes near it. As the ascent of the smoke in a chimney is owing to the impulse of the air with which it is intangled, in like manner, says he, the tail of a comet may rise from the atmosphere thereof into those parts which are opposite to the sun, being carried up by the æther about the comet, rarefied to a very great degree by the heat thereof. This opinion is greatly corroborated by the appearance of the tails; for when accurately observed, they are found not to rise always in a direction precisely opposite to the sun, but to deviate or incline a little from thence towards those parts which the comet has lately left; and not only so, but to be bent into a certain curvature, the extremities of the tails deviating from the true opposition more in proportion than the other parts; and to be more dense, seemingly, and better defined on the convex than on the concave side. And further, that the longer the tail is, the more sensible is the curvature, as being the greatest at the greatest distance from the body of the comet. Upon these accounts Sir Isaac thinks it evident, that the phænomena of the tails of comets depend on the motion of their heads, and that the heads furnish the matter which forms the tails.

Mr. Rowning, who is not satisfied with Sir Isaac's opinion, accounts for the tails of comets in the following manner. It is well known, says he, that when the light of the sun passes through the atmosphere of any body, as the earth, that which passes on one side, is by the refraction thereof made to converge towards that which passes on the opposite one; and this convergency is not wholly effected either at the entrance of the light into

into the atmosphere, or at its going out; but that beginning at its entrance, it increases in every point of its progress. It is also agreed, that the atmospheres of the comets are very large and dense. He therefore, supposes, that by such time as the light of the sun has passed through a considerable part of the atmosphere of a comet, the rays thereof are so far refracted towards each other, that they now begin sensibly to illuminate it, or rather the vapours floating therein, and so render that part which they have yet to pass through visible to us; and that this portion of the atmosphere of a comet thus illuminated, appears to us in the form of a beam of the sun's light, and passes under the denomination of a comet's tail. This is the hypothesis of Mr. Rowning: how well it answers the phænomena of the tails, may be seen in his system of natural philosophy, part IV. cap. 11.

A late writer supposes comets to be bodies destined to repair the quantities of light and fire incessantly emitted by the sun, and which are scattered and dispersed over the whole system. The large sweeping tails of the comets which extend so many thousand miles, our author thinks well adapted to such a purpose; and as many of those particles of light and fire may be supposed to be driven to a vast distance, it is necessary they should go to the utmost limits of the system to make such a collection. But as our author supposes the velocity of the rays of light to be the cause of the comets, as well as the planets motions, it is not possible a comet should exonerate on the sun's body, the particles of light and fire which he supposes it has collected in the wide expanse, when the comet itself never comes in contact with the sun; nor can those very particles which were before emitted from the sun's body, on the comet's arriving nearer to the sun, quit the cellules of the comet, and continue their motion to the sun, notwithstanding the repulsion of the rays of light.

To determine the apparent place and course of a COMET. One method by which astronomers investigate them in this. They observe what two stars are directly one on one side of the comet, and the other on the other; which is done by holding up a thread between the eye and the two stars, and extending it in such manner, as that it shall seem to cross each star: then they look out two other stars in such situation also, that the comet shall appear in a line that passes from one to the other, which are found as before. Then they extend a thread upon the celestial globe from one of the two first stars to the other; and another thread from one of the two last stars to the other: and the point on the globe where the threads cross, is the apparent place of the comet at the time the observation was made. This they do daily, and so trace out its apparent course in the heavens.

To determine the parallax of a COMET. See the article PARALLAX.

Trajectory of a COMET. See the article TRAJECTORY.

COMETARIUM, a curious machine exhibiting an idea of the revolution of a comet about the sun. It is contrived in such a manner, as by elliptical wheels to shew the unequal motion of a comet in every part of its orbit. The comet is represented by a small brass ball, carried by a radius vector, or wire, in an elliptic groove about the sun in one of its foci, and the years of its period are shewn by an index moving with an equable motion over a graduated silver circle. See a representation of it in plate XLV. fig. 3. and Martin's Philosophia Britannica, vol. I. p. 140, &c.

When the lid is taken off the box, it appears as follows: NO and QT are the elliptic wheels, turning each other about their foci I and S, by means of a cat-gut string in a groove on their edges crossing at K. NO is moved by the circular wheel I, which is itself moved by the wheel C; and this by an endless screw turned by a winch on the outside of the box. The ellipsis PLIM, described about the foci S s, represents the comet's orbit.

COMFREY, the english name of a genus of plants, called by botanists symphytum. See the article SYMPHYTUM.

COMITATUS POSSE. See the article POSSE COMITATUS.

COMITIA, in roman antiquity, an assembly of the people, either in the comitium or campus-martius, for the election of magistrates, or consulting on the important affairs of the republic. See COMITIUM and CAMPUS-MARTIUS.

There were certain days fixed for these assemblies, called *dies comitiales*, marked with a C in Julius Cæsar's calendar.

There were three kinds of comitia, viz. curiata, centuriata, and tributa, so distinguished from the manner wherein the people voted, and gave their suffrages, viz.

viz. by curiæ, or pariſhes, tribes, or centuries. The comitia curiata owe their original to the diviſion which Romulus made of the people into thirty curiæ, which anſwer in moſt reſpects to our pariſhes. The comitia centuriata were inſtituted by Servius Tullius. Comitial aſſemblies held for the election of conſuls, were called conſular comitia. In like manner the other comitia were named from the officer to be created, whether a tribune, pontif, ædile, or the like. The power of calling theſe aſſemblies, belonged at firſt only to the kings: but on the eſtabliſhment of the democracy, the ſame privilege was allowed to moſt of the chief magiſtrates, and ſometimes to the pontiffs.

COMITIALIS MORBUS, an appellation given to the epilepſy, by reaſon the comitia of antient Rome were diſſolved, if any perſon in the aſſembly happened to be taken with this diſtemper.

COMITIUM, in roman antiquity, a large hall in the forum, where the comitia were ordinarily held. See the articles FORUM and COMITIA.

This hall was a long time open at top, for which reaſon the aſſemblies were often interrupted by bad weather. It was firſt covered in the time of the ſecond punic war, and according to Roſinus, the conſuls and tribunes were not created in the comitium, but in the campus-martius.

COMMA, among grammarians, a point or character marked thus (,), ſerving to denote a ſhort ſtop, and to divide the members of a period.

Different authors define and uſe this point ſo differently, that it is difficult to aſcertain the preciſe uſe of it. The ordinary doctrine concerning it, conveys no clear or diſtinct idea of it; being thus, that it ſerves to diſtinguiſh nouns, verbs, adverbs, and ſuch diviſions of a period as are not neceſſarily joined together: ſome ſay indeed, that the comma ſerves to diſtinguiſh thoſe members of a period in each whereof is a verb and the nominative caſe of a verb. Thus, *though nothing ſo much gains upon the affections as an extempore eloquence, which we have conſtantly occaſion for, and are obliged to practiſe every day, we very rarely meet with any who excel in it.*

The comma is made uſe of to diſtinguiſh ſeveral nouns, ſubſtantives, adjectives, or verbs, not joined by a conjunction in the ſame member of a period: thus, *words, looks, geſture, and different tones of voice, are the means by which mankind communicate their thoughts to each other*: or, *a man never becomes agreeable in converſation, but by ſtudying the taſte, reſpecting the character, conforming himſelf to the humour*, &c. *of thoſe he converſes with.*

But the comma is omitted when thoſe words are united by a conjunction, as, *good humour and good ſenſe ſeldom fail to make a man agreeable in converſation.*

COMMA, in muſic, an interval equal to the difference of the tone major and minor, and expreſſed by the ratio 81 : 80. See the articles INTERVAL and TONE.

COMMANDING GROUND, in the military art, an eminence overlooking any poſt, or ſtrong place.

A commanding ground is of three kinds: firſt, a front ground, being an height, oppoſite to the face of ſome poſt, which plays upon its front. Secondly, a reverſe ground, being an eminence that can play upon the back of any poſt. Thirdly, an enfilade commanding ground, or curtin commanding ground, being an eminence that, with its ſhot, can ſcour all the length of a ſtraight line.

COMMANDMENT, in a legal ſenſe, is uſed variouſly: ſometimes it is taken for the commandment of the king; as when, upon his own motion, and from his own mouth, he orders any perſon to priſon. Sometimes it is uſed for the commandment of the juſtices: this commandment is either abſolute, or ordinary. Abſolute, is when a juſtice commits a perſon to priſon for contempt, *&c.* upon his own authority, as a puniſhment. Ordinary, is where a juſtice commits a perſon rather for ſafe cuſtody than for puniſhment: the perſon, thus committed by ordinary commandment, is bailable. In another ſenſe of the word, magiſtrates may command others to aſſiſt them in the execution of their offices, in order to keep the king's peace, *&c.*

COMMANDMENT is likewiſe uſed for the offence of a perſon that wills or orders another to do ſome unlawful act, as theft, murder, or the like. To command any one to commit burglary, is felony excluded clergy; and he who commands the doing any act that is unlawful, is acceſſary to it and all the conſequences thereof, if executed in the ſame manner as commanded; though not, where it varies, or where the commander revokes the command. In treſpaſſes, *&c.* a maſter ſhall be charged with the acts of his

ſervant,

servant, done by his command: however, servants shall not be excused for committing any crime, when they act by command of their masters, who have no such power over them as to enforce such commandments. The commands of infants or feme coverts are void.

COMMANDRY, a sort of benefice, or certain revenue, belonging to a military order, and conferred on antient knights, who had done services to the order, as the commandries of Malta.

The commandries of Malta are of different kinds: for as the order consists of knights, chaplains, *&c.* there are peculiar commandries or revenues attached to each; and the knights to whom one of these benefices is given, is called commander.

There are also commandries for the religious in the order of St. Bernard, and St. Anthony. The kings of France have converted several of the hospitals for lepers into commandries of the order of St. Lazarus.

COMMELINA, in botany, a genus of the triandria monogynia class of plants, whose corolla consists of six petals; the exterior three of which are small, oval, and concave, of the dimensions of the perianthium; the three interior and alternate petals are large, roundish, and coloured. The fruit is a naked, roundish capsule, containing three cells, and divided by three valves: the seeds, being two only, are angulated.

COMMEMORATION, in a general sense, the remembrance of any person or thing; or the doing any thing in honour of a person's memory, or in remembrance of any past event. Thus the eucharist is a commemoration of the sufferings of Jesus Christ.

It is a practice among the roman-catholics for dying persons to leave a legacy to the church, for the rehearsing of masses in commemoration of them.

COMMEMORATION is also the name of two religious feasts, otherwise called All-saints and All-souls. See ALL-SAINTS and ALL-SOULS.

COMMENDAM, in the ecclesiastical law, the trust or administration of the revenues of a benefice, given either to a layman, to hold, by way of *depositum*, for six months, in order to repairs, *&c.* or to an ecclesiastic, or beneficed person, to perform the pastoral duties thereof, till once the benefice is provided with a regular incumbent.

Commendams were formerly a very laudable institution: for when an elective benefice became vacant, for which the ordinary could not, for some reason, immediately provide, the care of it was recommended to some man of merit, who took upon him the direction of it, till the vacancy was filled up, but enjoyed none of the profits.

At length it became a maxim among the canonists, that a clerk might hold two benefices, the one titular, and the other in commendam: yet still, the commendam was to continue only till other provisions were made; and afterwards, they began to be given for a determinate time.

COMMENDAM, in the church of Rome, is likewise a real title of a regular benefice, such as an abbey or priory, given by the pope to a secular clerk, or even to a layman, with a power to dispose of the fruits thereof during life.

In England, the right of granting benefices in commendam is vested in the crown by a statute of Henry VIII. This right was contested in the reign of king James I. when it was disputed, not only whether the king might grant a commendam, but whether or no they were to be granted without necessity.

COMMENDATORY, in a general sense, something belonging to a commendam.

COMMENDATORY ABBOT. See the article ABBOT.

COMMENDATUS, in our old customs, one that lives under the patronage of some great person: hence commendati homines, were those who by voluntary homage put themselves under the protection of a superior lord; and commendati dimidii, those who had dependance on two several lords, and were to pay each one half of their homage.

COMMENSURABLE, among geometricians, an appellation given to such quantities as are measured by one and the same common measure: thus if the line A ⊢⊢⊢⊢⊢⊢⊢⊢⊣ a be equal to 8, and the line B ⊢⊢⊢⊣ b equal to 4 inches, these two lines will be commensurable, since the same common measure 2, measures them both.

COMMENSURABLE NUMBERS, whether integers or fractions, are such as can be measured or divided by some other number, without any remainder: such are 12 and 18, as being measured by 6 or 3.

COMMENSURABLE in POWER, is said of right

right lines, when their ſquares are meaſured by one and the ſame ſpace, or ſuperficies.

COMMENSURABLE SURDS, thoſe that being reduced to their leaſt terms, become true figurative quantities of their kind; and are therefore as a rational quantity to a rational one.

COMMENTARY, or COMMENT, in matters of literature, an illuſtration of the difficult or obſcure paſſages of an author.

It is an obſervation of Evremond, that commentators uſually find beauties, and even doctrines, that the original author never dreamt of.

COMMENTARY, or COMMENTARIES, likewiſe denotes a kind of hiſtory, or memoirs of certain tranſactions, wherein the author had a conſiderable hand: ſuch are the commentaries of Cæſar.

COMMERCE, a term uſed for the buying, ſelling, or bartering of all manner of commodities, in order to profit by the ſame.

Inſtead of ſhewing how commerce flouriſhed, and what encouragement it met with among the Egyptians, Phœnicians, Carthaginians, Greeks, Romans, *&c.* our labour will be better beſtowed in examining upon what footing it ſtood among our anceſtors, and how it is, or ought to be eſteemed at preſent. The large ſhare which the trading part of the nation has in the legiſlature, evidently proves how high it was valued by our anceſtors: for whilſt one, or at the utmoſt two members were thought ſufficient to repreſent a whole county in parliament, moſt boroughs ſend an equal number of burgeſſes to take care of their trading intereſt; ſo that theſe laſt amount to 334, whereas the knights for the counties are only 80, and the citizens for the cities 50. Great traders have likewiſe been diſtinguiſhed by particular marks of honour. They have been created knights, knights of the Garter and Bath, bannerets, baronets, barons and earls; which ſufficiently proves, that trading was not only formerly, but is, at preſent, thought to be of the greateſt conſequence to the nation; and never did, or can, by our laws and cuſtoms, detract from any man or family; but, on the contrary, that ſome of the beſt houſes among the nobility are the deſcendants of great traders: thus the late earl of Haverſham was originally a merchant, the preſent earl of Tilney's grandfather the ſame; as was the great-grandfather of the preſent duke of Bedford, and numberleſs others. And why ſhould not commerce, as well as law and divinity, or the ſword, be a road to the higheſt honour? It is prudence and activity that diſtinguiſhes a man from the common herd of mankind; and if he who ſaves a town, or a body of troops, be rewarded with honours, is not juſt, that the man who eſtabliſhes new manufactures, or branches of trade, whereby thouſands are not only maintained but made happy, ſhould be honoured by his prince, and reſpected by his fellow-ſubjects?

As to the great advantages of commerce, may it not be deemed the baſis of civil ſociety, and the moſt neceſſary principle to unite all men of whatever country or condition? Is it not an unexhauſtible ſource of plenty to all the world? By it, the mercantile people of all nations ſeem to be but one body incorporated; the riches of every trading town circulate into the hands of poor and induſtrious mechanics; and the neceſſities and conveniencies of one place ſupplied from the moſt diſtant ſhores of the Eaſt and Weſt Indies. Without commerce, the greateſt ſtates make but a poor figure; being neglected and deſpiſed by their neighbours, and unable to provide for their numerous poor at home: whereas where commerce flouriſhes, theſe add grandeur to the ſtate, and the merchants live like princes, and at the ſame time provide the ſinews of war againſt the moſt daring attacks of their enemies.

The cities of Venice and Genoa have been raiſed merely by commerce; and to its decay, may be aſcribed the diminution of their influence and power. So long as the counts of Flanders careſſed the woollen-manufacturers, nothing could compare to the wealth of the cities of Bruges and Ghent: whereas the workmen, when loaded with impoſitions and taxes, together with their manufactures, carried riches and wealth to England and Antwerp. Holland receives from, and ſends embaſſadors to, crowned heads. It ranks with the moſt diſtinguiſhed ſtates, and is behind none of them for the plenty it enjoys both of the neceſſary and the agreeable, for the boldneſs of its enterprizes, and the wiſdom of its government. And what are the Dutch but a ſet of merchants, who take a pride in being ſuch? Since the ſpirit of commerce has ſpread itſelf over that little corner of the world, it has aſſumed a new face; the

waters

waters have been carried off; the grounds of their habitations are daily raised, and rendered firmer and firmer; their towns are become models of neatnefs and conveniency; and the draining of their lands has made way for gardening and hufbandry. As to England, the conveni-ence and multitude of its ports, the goodnefs of its commodities, and the induftry and ingenuity of its workmen, have eftablifhed its trade fo as to admit of no rival but the Dutch. England trades in all parts of the world, nor does any nation drive fuch a trade as fhe does with her own commodities; for the dutch trade confifts chiefly in the tranfportation of foreign goods from one country to another. Not only at London, where the great trading companies are eftablifhed, but at Briftol, Liverpool, &c. and all over the kingdom, does commerce exert its kindly influence: for not to mention the vaft number of merchants, manufacturers, and other perfons immediately engaged in trade, does not the gardener, the farmer, the grazier, the landed gentleman, and even the nobleman in a manner live by it; nay, is it not the moft folid fupport of the prince, and of the ftate itfelf?

Confidering, therefore, the vaft importance of this employment, it is no wonder that the nations of Europe feem to vie with each other, which fhall give it the greateft encouragement; and to the honour of our government it muft be allowed, that, in this refpect, Britain yields to none of them. Bounties, drawbacks, prohibitions, &c. and even the eftablifhment of trading companies, with exclufive privileges; all have this great and important object in view. See the articles, BOUNTY, DRAWBACK, &c.

As to the branches of commerce treated of in this dictionary, they are very numerous, but may be arranged under thefe heads: 1. Thofe which are merely mercantile, or between merchant and merchant: fuch are bills of exchange, accounts of fales, company-partnerfhip, factor, fupercargo, infurance, book-keeping, &c. 2. Thofe relative to fhipping, as average, barratry, bottomry, bill of lading, charter-party, freight, &c. 3. Thofe relating to exportation and importation, as bounty, drawback, duties, cuftoms, board of trade and plantation, &c. 4. Such as regard manufactures, as cloth, linen, ftuffs, hats, lace, &c. and hence woollen-draper, linen-draper, &c.

COMMINATORY, an appellation given to whatever threatens punifhment, or fome penalty: fuch is that part of a felon's fentence of banifhment, which makes it death if he return before a certain time.

COMMINUTION, denotes the breaking, or rather grinding, a body to very fmall particles.

COMMISSARY, in the ecclefiaftical law, an officer of the bifhop, who exercifes fpiritual jurifdiction in places of a diocefe fo far from the epifcopal fee, that the chancellor cannot call the people to the bifhop's principal confiftory court, without giving them too much inconveniency.

In Scotland, thefe commiffaries are ftill continued, notwithftanding epifcopacy is now no more.

COMMISSARY, in a military fenfe, is of three forts.

COMMISSARY *general of the mufters*, an officer appointed to mufter the army, as often as the general thinks proper, in order to know the ftrength of each regiment and company, to receive and infpect the mufter-rolls, and to keep an exact ftate of the ftrength of the army.

COMMISSARY *general of ftores*, an officer in the artillery, who has the charge of all the ftores, for which he is accountable to the office of ordnance.

COMMISSARY *general of provifions*, an officer who has the infpection of the bread, and provifions of the army.

COMMISSION, in common law, the warrant or letters-patent which all perfons, exercifing jurifdiction, have to empower them to hear or determine any caufe or fuit: as the commiffion of the judges, &c. Moft of the great officers judicial and minifterial of the realm, are made alfo by commiffion; by means of commiffion, oaths, cognizance of fines, anfwers in chancery, &c. are taken; witneffes examined, offices found, &c.

COMMISSION *of anticipation*, was a commiffion formerly iffued under the great feal, to collect a fubfidy before the day.

COMMISSION *of affociation*, was a commiffion under the great feal, to affociate two or more learned perfons with the juftices in the circuits and counties of Wales.

COMMISSION *of bankruptcy*, is the commiffion that iffues from the lord chancellor,

cellor, on a perſon's becoming a bankrupt within any of the ſtatutes, directed to certain commiſſioners appointed to examine into it, and to ſecure the bankrupt's lands and effects, for the ſatiſfaction of his creditors. See BANKRUPT.

COMMISSION *of charitable uſes* iſſues out of the chancery, directed to the biſhop and others of the dioceſe, where any lands given towards charitable uſes are miſapplied, &c. in order to inquire into and redreſs the abuſe.

COMMISSION *of delegates*, a commiſſion under the great ſeal, directed to certain perſons, uſually two or three temporal lords, as many biſhops, and two judges of the law, authoriſing them to ſit upon an appeal to the king, in the court of chancery, from a ſentence given by the archbiſhop in any eccleſiaſtical cauſe.

COMMISSION *of lunacy* iſſues out of the court of chancery, to inquire whether a perſon repreſented to be a lunatic be ſo or not.

COMMISSION *of peace*. See the article JUSTICES *of the peace*.

COMMISSION *of rebellion*, generally termed a *writ of rebellion*, iſſues where a perſon, after proclamation made by the ſheriff, on a proceſs out of the chancery or exchequer, required, upon pain of his allegiance, to preſent himſelf to the court by a day aſſigned, neglects to appear.

COMMISSION *of ſewers*, is a commiſſion directed to certain perſons, to inſpect and ſee drains and ditches well kept in the marſhy and fenny parts of England, for the better conveying of water into the ſea, and preſerving the graſs on the land. See the article SEWER.

COMMISSION OFFICERS. See the article OFFICER.

COMMISSION, in commerce. See the article FACTORAGE.

COMMISSIONER, a perſon authoriſed by commiſſion, letters-patent, or other lawful warrant, to examine any matters, or execute any public office, &c. See COMMISSION and WARRANT.

Beſides thoſe relating to judicial proceedings, there are

COMMISSIONERS *of the cuſtoms*. See the article CUSTOMS.

COMMISSIONERS *of exciſe*. See EXCISE.

COMMISSIONERS *of the navy*. See the article NAVY.

Lords COMMISSIONERS *of the treaſury*. See TREASURY and EXCHEQUER.

There are alſo commiſſioners of hawkers and pedlars, commiſſioners of alienation, commiſſioners of the ſtamps, &c.

COMMISSUM-FIDEI, or FIDEI COMMISSUM. See FIDEI COMMISSUM.

COMMISSURE, *commiſſura*, a word uſed by ſeveral authors for the ſmall pores of any body, or the little clefts, cavities, or interſtices, which are between the particles of any body, eſpecially when the particles are broadiſh and flatiſh, and lie contiguous to one another like very thin plates. See the article PORE, &c.

COMMISSURE, in architecture, &c. the joint of two ſtones, or the application of the ſide of one to that of the other.

COMMITMENT, in law, the ſending of a perſon, charged with ſome crime, to priſon, by warrant, or order.

A commitment may be made by the king and council, by the judges of the law, the juſtices of peace, or other magiſtrate, who have authority by the laws and ſtatutes of the realm ſo to do. Every commitment ſhould be made by warrant under the hand and ſeal of the party committing, and the cauſe of commitment is to be expreſſed in the warrant. The terms of it muſt alſo require the criminal to be kept in cuſtody till diſcharged according to due courſe of law, &c.

COMMITTEE, one or more perſons, to whom the conſideration or ordering of a matter is referred, either by ſome court, or by the conſent of parties, to whom it belongs.

COMMITTEE *of the king*, is uſed, in our old cuſtoms, for the widow of the king's tenant, committed, by the antient laws of the realm, to the king's care and protection.

COMMITTEE *of parliament*, a certain number of members appointed by the houſe, for the examination of a bill, making report of an inquiry, proceſs of the houſe, &c.

When a parliament is called, and the ſpeaker and members have taken the oaths, there are committees appointed to ſit on certain days, *viz*. the committee of privileges and elections, of religion, of trade, &c. which are ſtanding committees.

Sometimes the whole houſe reſolves itſelf into a committee, on which occaſion each perſon has a right to ſpeak and reply as often as he pleaſes, which is not the caſe when a houſe is not in a committee.

COMMODATE, *commodatum*, among civilians, differ only from a loan, as things lent

lent may be returned in kind, though not in identity; which is otherwiſe in regard to the commodate.

COMMODITY, in a general ſenſe, denotes all ſorts of wares and merchandiſes whatſoever that a perſon deals or trades in. See the article COMMERCE.

Staple COMMODITIES, ſuch wares and merchandiſes as are commonly and readily ſold in a market, or exported abroad; being, for the moſt part, the proper produce or manufacture of the country.

COMMODORE, in maritime affairs, an officer of the britiſh navy, commiſſioned by the lords of the admiralty, or by an admiral, to command a ſquadron of men of war in chief.

COMMON, ſomething that belongs to all alike, in contradiſtinction to proper, peculiar, *&c.* Thus the earth is ſaid to be our common mother.

COMMON *Bench*, a name by which the court of common pleas was antiently called. See the article COMMON PLEAS.

COMMON COUNCIL. See COUNCIL.

COMMON DUCT, in anatomy. See the article DUCT.

COMMON HUNT, the chief huntſman belonging to the lord mayor and aldermen of London.

COMMON LAW, that body of rules received as law in England, before any ſtatute was enacted in parliament to alter the ſame.

The common law is grounded upon the general cuſtoms of the realm, including the law of nature, the law of God, and the principles and maxims of law: it is alſo founded on reaſon, as ſaid to be the perfection of reaſon, acquired by long ſtudy, obſervation, and experience, and refined by the learned in all ages. It may likewiſe be ſaid to be the common birthright that the ſubject has for the ſafeguard and defence not only of his goods, lands, and revenues, but of his wife, children, life, fame, *&c.* Our common law, it is ſaid, after the heptarchy, was collected together into a body, by divers of our antient kings, who commanded, that it ſhould be obſerved through the kingdom; and it was therefore called common law, becauſe it was common to the whole nation, and before only affected certain parts thereof; being antiently called the folc-right, that is, the right of the people. See the article LAW.

COMMON PLACE BOOK, *adverſaria*, among the learned, denotes a regiſter of what things occur, worthy to be noted in the courſe of a man's ſtudy, ſo diſpoſed, as that among a number of ſubjects, any one may be eaſily found. Several perſons have their ſeveral methods of ordering them; but that which is beſt recommended, is Mr. Locke's method, which he has publiſhed in a letter to Mr. Toiſnard, determined thereto by the great conveniency and advantage he had found from it, in twenty years experience. The ſubſtance of this method is as follows. The firſt page of the book, or, for more room, the two firſt pages fronting each other, are to ſerve for a kind of index to the whole, and contain references to every place or matter therein: in the commodious contrivance of this, ſo as it may admit of a ſufficient variety of materials, without confuſion, all the ſecret of the method conſiſts. The manner of it, as laid down by Mr. Locke, will be conceived from the following ſpecimen, wherein what is to be done in the book, for all the letters of the alphabet, is here ſhewn in the firſt four:

A	*a*	
	e	
	i	
	o	
	u	
B	*a*	
	e 2. 3.	
	i	
	o	
	u	
C	*a*	
	e	
	i	
	o	
	u	
D	*a*	
	e	
	i	
	o	
	u	

The index of the common place book being thus formed, it is ready for the taking down any thing therein.

In order to this, conſider to what head the thing you would enter is moſt naturally referred; and under which one would be led to look for ſuch a thing: in this head or word regard is had to the initial letter, and the firſt vowel that follows

lows it; which are the characteristic letters whereon all the use of the index depends.

Suppose, *e. g.* I would enter down a passage that refers to the head *beauty*; B, I consider, is the initial letter, and *e* the first vowel: then, looking upon the index for the partition B, and therein the line *e* (which is the place for all words whose letter is B, and the first vowel *e*; as beauty, beneficence, bread, bleeding, blemishes, *&c.*) and, finding no numbers already wrote to direct me to any page of the book where words of that characteristic have been entered, I turn forward to the first blank page I find, which in a fresh book, as this is supposed to be, will be page 2, and here write what I have occasion for on the head beauty; beginning the head in the margin, and indenting all the other subservient lines, that the head may stand out and shew itself: this done, I enter the page where it is wrote, *viz.* 2 in the space B *e*; from which time the class B *e* becomes wholly in possession of the 2d and third pages, which are consignedto letters of this characteristic.

Note, if the head be a monosyllable beginning with a vowel, the vowel is at the same time both the initial letter and the characteristic vowel: thus, the word art is to be wrote in A *a*. Mr. Locke omits three letters of the alphabet in his index, *viz.* K, Y, and W, which are supplied by C, I, and U, equivalent to them: and as for Q, since it is always followed by an *u*, he puts it in the first place of Z; and so has no Z *u*, which is a characteristic that very rarely occurs. By thus making Q the last of the index, its regularity is preserved, without diminishing its extent. Others choose to retain the class Z *u*, and assign a place for Q *u*, below the index.

If any imagine these hundred classes are not sufficient to comprehend all kinds of subjects without confusion, he may follow the same method, and yet augment the number to 500, by taking in one more characteristic to them.

But the inventor assures us, that in all his collections, for a long series of years, he never found any deficiency in the index, as above laid down.

Dr. Felton, in his Introduction to the Classics, ridicules the practice of common-placing, with more wit, however, we think, than argument; for if a common place book be well contrived, if the passages taken down are dispersed in a regular manner, the expedient must certainly be of great service. Few readers are capable of remembring all the beautiful sentiments and reflexions that are to be met with in an author; a common-place book, therefore, is a repository, where fine observations upon all subjects are so ranged, that the reader may have recourse to them on all occasions.

COMMON-PLEAS is one of the king's courts now held constantly in Westminster-hall, but in former times was moveable.

All civil causes, as well real as personal, are, or were formerly, tried in this court, according to the strict law of the land. In personal and mixed actions it has a concurrent jurisdiction with the king's bench, but has no cognizance of pleas of the crown. The actions belonging to the court of common pleas come thither by original, as arrests and outlawries; or by privilege, or attachment for or against privileged persons; or out of inferior courts, not of record, by pone, recordari, accedas ad curiam, writ of false judgment, *&c.* The chief judge of this court is called lord chief justice of the common pleas, who is assisted by three other judges: the other officers of the court are the custos brevium, who is the chief clerk; three prothonotaries, and their secondaries; the clerk of the warrants, clerk of the essoins, fourteen filazers, four exigentors, a clerk of the juries, the chirographer, the clerk of the king's silver, clerk of the treasury, clerk of the seal, clerk of the outlawries, clerk of the inrolment of fines and recoveries, and clerk of the errors. See the article CUSTOS BREVIUM, *&c.*

COMMON, in law, that soil, the use of which is common to this or that town or lordship. There is common of pasture for cattle, and also common of fishing, common of estovers, common of turbary, *&c.*

COMMON *of pasture* is divided into, 1. Common in gross, where a person by deed grants to another to have common alone, without any lands or tenements in the land of the granter. 2. Common appendant, a right belonging to a man's arable lands, of putting beasts commonable, such as horses, oxen, sheep, *&c.* into another's ground. 3. Common appurtenant, what belongs to an estate for all manner of beasts, commonable, or not so: common appurtenant may be severed from the land whereto it is belonging,

 but

but not common appendant; and the one may pertain to a houſe, paſture, &c. though not the other. 4. Common per cauſe de vicinage, becauſe of neighbourhood; a liberty that the tenants of one lord, in one town, have to common with tenants of another lord, in another town. Thoſe that claim this kind of common, may not put their cattle in the common of the other lord, for then they are diſtrainable; but turning them into their own fields, if they ſtray into the neighbour-common they muſt be ſuffered.

COMMON *of eſtovers* ſignifies a right of taking wood out of another perſon's woods, for houſe-bote, plough-bote, and hay-bote. If a tenant take more houſe-bote, &c. than is needful, he may be puniſhed for it as a waſte: and where a perſon has this common, if the owner of the land cuts down all the wood, ſo that there is none left for him, he may bring aſſiſe of eſtovers, or action in the caſe.

COMMON *of piſcary* ſignifies a liberty of fiſhing in another's water: though common of fiſhing to exclude the owner of the ſoil, is againſt law; yet a perſon by preſcription may have a ſeparate right of fiſhing in a water, and the owner be excluded, as one may grant ſuch right without granting the ſoil or the water.

COMMON *of turbary* ſignifies a licence to dig turf on the ground of another, or in the lord's waſte. It is appendant, or appurtenant to a houſe, but not to lands, and it gives no right to the land whence it is taken.

COMMON DAY, in plea of land, ſignifies an ordinary day in court, as in eight days of hillary, from the day of eaſter in fifteen days.

COMMON INTENDMENT, a common meaning of any thing, without ſtraining it to any foreign, remote, or particular ſenſe. Hence bar to common intendment, is a general bar, which commonly diſables the plaintiff's declaration. There are ſeveral caſes where it takes place in our law.

COMMON PRAYER is the liturgy in the church of England. Clergymen are to uſe the public form of prayers preſcribed by the Book of Common Prayer; and refuſing to do ſo, or uſing any other public prayers, are puniſhable by 1 Eliz. c. ii.

COMMON, in grammar, denotes the gender of nouns, which are equally applicable to both ſexes: thus *parens*, a parent, is of the common gender.

COMMON, in geometry, is applied to an angle, line, or the like, which belongs equally to two figures.

COMMON DIVISOR, a quantity or number which exactly divides two or more other quantities or numbers, without leaving any remainder.

COMMON *meaſure*, is ſuch a number as exactly meaſures two or more numbers, without a remainder.

Greateſt COMMON *meaſure*, of two or more numbers, is the greateſt number that can meaſure them; as 4 is the greateſt common meaſure of 8 and 12.

COMMON *ray*, in optics, is a right line drawn from the point of concurrence of the too optical axes through the middle of the right line, paſſing through the center of the pupil of the eye.

COMMON *object*. See the article OBJECT.

COMMON *ſenſory*. See the article SENSORY.

COMMONER, or GENTLEMAN COMMONER, in the univerſities, a ſtudent entered in a certain rank.

COMMONS, or HOUSE OF COMMONS, a denomination given to the lower houſe of parliament. See PARLIAMENT.

COMMONS, or COMMONALTY, likewiſe ſignifies the whole body of the people under the degree of a baron, whether knights, gentlemen, burgeſſes, yeomen, &c.

Doctors COMMONS. See COLLEGE *of civilians*.

COMMONS is alſo uſed for the ſtated public diet of ſome ſociety, as a college, the inns of court, &c. to which all the members are obliged to contribute, whether they attend or not.

COMMONWEALTH, the ſame with republic. See the article REPUBLIC.

COMMOTE, in political geography, the half of a cantred. See CANTRED.

COMMOTION, an inteſtine motion in the parts of any thing.

In medicine the term is applied to a blow or ſhake of the brain. Thus a fall occaſions a commotion, producing ſometimes a contrafiſſure, and at other times a rupture of the veſſels, and an apoſthume by ſhaking the whole maſs of the brain.

COMMUNAM APPROPRIARE, in law. See the article APPROPRIARE.

COMMUNIBUS LOCIS, a latin term frequently uſed by philoſophical writers, implying ſome medium or common relation between ſeveral places. Thus Dr. Keil ſuppoſes the ocean to be one quarter of a mile deep *communibus locis*, that is at a medium, or taking one place with another.

COMMUNIBUS ANNIS has the ſame meaning with regard to time, that *communibus locis* has with regard to places.

COMMUNICATING, in divinity, the act of receiving the ſacrament, or communion. See COMMUNION.

Proteſtants, as well as the greek church, communicate under both kinds; but the papiſts deny the cup to the laity.

COMMUNICATION, in a general ſenſe, the act of imparting ſomething to another.

COMMUNICATION is alſo uſed for the connection of one thing with another, or the paſſage from one place to another: thus a gallery is a communication between two apartments.

COMMUNICATION *of idioms*, in theology, the act of imparting the attributes of one of the natures in Jeſus Chriſt to the other.

It is by this communication that we ſay God ſuffered, and died, *&c.* which, ſtrictly ſpeaking, is only underſtood of the human nature; and is wholly founded on the union of the two natures in the perſon of Chriſt.

The lutherans carry the communication of idioms ſo far as to ſay, that Jeſus Chriſt is not only in his divine nature, and by reaſon of his divine perſon, but alſo, really and properly, in his humanity, immortal, immenſe, *&c.*

COMMUNICATION *of motion*, the act whereby a body at reſt is put into motion by a moving body; or, it is the acceleration of motion in a body already moving.

Sir Iſaac Newton demonſtrates, that action and re-action are equal and oppoſite; ſo that one body ſtriking againſt another, and thereby occaſioning a change in its motion, does in itſelf undergo the ſame change in its own motion the contrary way. Whence a moving body, ſtriking directly againſt another at reſt, loſes as much of its motion as it communicates to the other, and they will proceed with the ſame velocity as if grown into one maſs.

If, therefore, the body in motion be triple that at reſt, againſt which it ſtrikes, it will loſe a fourth part of its motion; and whereas, before the ſtroke, it would have run over, *v. g.* a line of 40 feet in a given time, it will only run over 30 after it; having loſt a fourth part of its velocity.

If a moving body ſtrike another already in motion, the firſt will augment the velocity of the latter; but will loſe leſs of its own motion, than if the latter had been abſolutely at reſt. Thus, if a body in motion be triple of another at reſt, and ſtrike againſt it with 24 degrees of motion, it will communicate 6 degrees of its motion to the other, and retain 18 itſelf: whereas if the other had already 4 degrees of motion, the firſt would only communicate 3, and retain 21; ſince thoſe 3 were ſufficient, in regard to the inequality of the bodies, to make them proceed with equal velocity.

After the ſame manner may be determined the other laws of communication of motion in bodies perfectly hard and void of all elaſticity: but all hard bodies, that we know of, have an elaſtic power, and the laws are different, and much more intire in elaſtic bodies. See the articles ELASTICITY and PERCUSSION.

If a body happen to decline out of the way, when moved by another, ſo as to leave a free paſſage to the body by which it was moved, yet that will only proceed with the velocity which it had after its communication to the other, and not with that it had before; it being a rule, that every thing endeavours to perſevere, not in the ſtate wherein it was formerly, but in that wherein it is at that juncture. Therefore a body that has already loſt part of its motion, by its meeting with another, may ſtill loſe more by a ſecond, and a third, ſo as, at length, to become perfectly quiet.

Hence, if two unequal homogeneous bodies move in a right line with the ſame velocity, the greateſt muſt perſevere in motion longer than the ſmaller; for the motions of bodies are as their maſſes: but each communicates of its motion to the circumjacent bodies which touch its ſurface: the larger body, therefore, tho' it has much more ſurface than the ſmaller, yet having leſs in proportion to its maſs or quantity of matter than the ſmaller, will loſe a leſs proportion of its motion, every moment, than the ſmaller.

Bridge of COMMUNICATION. See the article BRIDGE.

Lines of COMMUNICATION, in military matters, trenches made to continue and preſerve a ſafe correſpondence between two forts or poſts; or at a ſiege, between two approaches, that they may relieve one another.

COMMUNION, in matters of religion, the being united in doctrine and diſcipline;

pline; in which ſenſe of the word, different churches are ſaid to hold communion with each other.

In the primitive chriſtian church, every biſhop was obliged, after his ordination, to ſend circular letters to foreign churches, to ſignify that he was in communion with them. The three grand communions into which the chriſtian church is at preſent divided, is that of the church of Rome, the greek church, and the proteſtant church: but originally all chriſtians were in communion with each other, having one common faith and diſcipline.

COMMUNION is alſo uſed for the act of communicating in the ſacrament of the euchariſt, or the Lord's ſupper.

This ſacrament was inſtituted by Chriſt himſelf, and the adminiſtration of it committed by him to his apoſtles, and to their ordinary ſucceſſors. The ſacramental elements were to be conſecrated with ſolemn prayers and bleſſings, by the biſhop or preſident, and then delivered by the deacons to the people, as well thoſe who were abſent, as thoſe preſent. In the beginning of chriſtianity, the whole body of chriſtians uſed conſtantly to meet together at the Lord's table, on all their public aſſemblies; their ſacramental wine was uſually mixed and diluted with water; and during the time of adminiſtration, they ſung hymns and pſalms, particularly the 23d pſalm.

In the church of Rome, the prieſt only has the privilege of communicating in both kinds, whereas the laity communicate only under one: the taking of the cup from the laity, was enjoined by a decree of the council of Conſtance in the year 1414. The roman catholics pay the moſt ſuperſtitious regard to the conſecrated elements. In the greek church, the laity, as well as the clergy, receive the communion in both kinds: but their devotion, at the celebration of the euchariſt, is exceſſive.

COMMUNION-SERVICE, in the liturgy of the church of England, the office for the adminiſtration of the holy ſacrament, extracted from ſeveral antient liturgies, as thoſe of St. Baſil, St. Ambroſe, *&c.*

By the laſt rubric, part of this ſervice is appointed to be read every Sunday and holiday, after the morning prayer, even though there be no communicants.

COMMUNION-TABLE, that whereon the elements of bread and wine, uſed in communicating, or partaking of the holy ſacrament, are placed.

At the time of the reformation, a diſpute aroſe in England, whether the communion tables of the altar faſhion, which had been uſed in popiſh times, and on which maſſes had been celebrated, ſhould be ſtill continued; and it was ordered by the king and council, that they ſhould be pulled down. On this there aroſe another diſpute, *viz.* whether the new communion-tables ſhould be placed altarwiſe, or in the ſame place and ſituation with the former altars? And by an injunction of queen Elizabeth it was ordered, that holy tables ſhould be decently made, and placed in the place where the altars had ſtood; that is, at the upper end of the chancel, next the wall; where they ſtand to this day.

COMMUNIS, COMMON, is an appellation chiefly uſed by anatomiſts; in whoſe writings we meet with *communis capſula*, *communis ductus*, *communis muſculis*, &c.

COMMUNITY, a ſociety of men living in the ſame place, under the ſame laws, the ſame regulations, and the ſame cuſtoms.

Communities are of two kinds, eccleſiaſtic or laic. The firſt are either ſecular, as chapters of cathedral and collegiate churches; or regular, as convents, monaſteries, *&c.*

Lay communities are of various ſorts, ſome contracted by a fixed abode of a year and a day in the ſame place; others formed by the diſcharge of the ſame office, the profeſſion of the ſame art, or the attending the ſame place of worſhip, as thoſe of pariſhes, fraternities, *&c.* Accordingly the word is commonly underſtood of pious foundations, for the ſupport of ſeveral perſons either in a ſecular or regular life, as convents, abbies, colleges, ſeminaries, hoſpitals, inns.

COMMUNITY, in the french law, denotes the joint property in goods between the huſband and wife; the effects of which is, that they are equally intitled to all moveable goods, and all immoveable eſtates acquired during the marriage, and equally liable to all debts contracted before or under marriage.

COMMUNITY *continued*, in the french law, is that which ſubſiſts between the ſurvivor of two perſons joined in marriage, and the minor children of that marriage, when the ſurvivor has not made an inventory of the effects in poſſeſſion during marriage.

COMMUNITY *tacit*, is that contracted between ſeveral perſons by the mere mingling

ling of their effects, provided they have lived together a year and a day. This community takes place only between children and a father or mother who survives, when no inventory of goods has been taken.

COMMUTATION, in astronomy. The angle of commutation is the distance between the sun's true place seen from the earth, and the place of a planet, reduced to the ecliptic. It is found by subtracting the sun's true place from the heliocentric place of the planet. See HELIOCENTRIC.

COMMUTATION, in law, the change of a penalty or punishment from a greater to a less; as when death is commuted for banishment, &c.

COMORIN, or CAPE COMORIN, the most southerly promontory of the higher India, lying north-west of the island of Ceylon.

COMORRA, a city of Hungary, situated on the Danube, at the end of the island of Schut, thirty-three miles south-east of Presburg: east long. 18° 16′, north lat. 48° 15′.

COMPACT, in physiology, is said of bodies which are of a close, dense, and heavy texture, with few pores, and they very small.

COMPACT is also the name of a famous bull confirmed by pope Paul IV. by virtue of which, cardinals are restricted to confer benefices in their natural state; that is, regular benefices on regulars, &c.

COMPANY, in general, denotes a number of people met together in the same place, and about the same design. With respect, however, to matters of pleasure or diversion, instead of company, we make use of the terms *party* or *match*.

COMPANY, in a commercial sense, is a society of merchants, mechanics, or other traders, joined together in one common interest.

When there are only two or three joined in this manner, it is called a partnership; the term *company* being restrained to societies consisting of a considerable number of members, associated together by a charter obtained from the prince.

The mechanics of all corporations, or towns incorporated, are thus erected into companies, which have charters of privileges and large immunities. Those of London are very numerous. The mercers were incorporated in the 17th of king Richard II. in the year 1393; the grocers, in the 20th Edward III. *ann.* 1345; the drapers, in the 17th of Henry VI. *ann.* 1430; the fishmongers, in the 28th of Henry VIII. *ann.* 1536; the goldsmiths, in the 26th of Richard II. *ann.* 1392; the skinners, in the 1st of Edward III. *ann.* 1327; the merchant-taylors, in 17th Henry VII. *ann.* 1501; the haberdashers, or hurrers, in 26th Henry VI. *ann.* 1447, and 17th Henry VII. *ann.* 1501; the salters, in 20th Henry VIII. *ann.* 1530; the ironmongers, in 3d Edward IV. *ann.* 1462; the vintners, in the reign of Edward III. and 15th Henry VI. and the clothiers, or cloth-workers, in 22d Henry VIII.

Besides these, which are the twelve principal companies of London, there are other very considerable ones; as the dyers, brewers, leather-sellers, pewterers, barbers, surgeons, armourers, white-bakers, wax-chandlers, tallow-chandlers, cutlers, girdlers, butchers, sadlers, carpenters, cord-wainers, painters, curriers, masons, plumbers, innholders, founders, imbroiderers, poulterers, cooks, coopers, bricklayers, and tylers; also bowyers, fletchers, black-smiths, joiners, plaisterers, weavers, fruiterers, scriveners, bottle-makers, and horners; likewise stationers, marblers, wool packers, farriers, paviors, lorimers or lorners, brown-bakers, woodmongers, upholsterers, turners, glaziers, clerks, watermen, apothecaries, and throwsters.

All these are fraternities, and most of them incorporated by charter, for carrying on and improving the several manufactures signified by their names. It now remains, that we give some account of the principal companies of merchants, some of which trade with joint stocks, and all of them enjoy by charter many exclusive privileges; for however injurious these companies may, at this time of day, be reckoned to the nation in general, yet it is certain, that they were the original parents of all our foreign commerce; private traders upon their own bottom being discouraged from hazarding their fortunes in foreign countries, till the methods of traffic had been settled by joint-stock companies: and from this very principle it is, that we find several nations at present endeavouring to extend their trade by the same means.

The most antient trading company, in Britain, is the Hamburgh company, originally called merchants of the staple, and afterwards merchant adventurers: they were incorporated by king Edward IV. from which time they traded with success till the reign of queen Elizabeth, who,

who, for a farther encouragement of their induſtry, not only confirmed, but inlarged their privileges. However, it ought to be obſerved, that this trade is now open to private merchants, upon paying a very ſmall ſum to the company.

The company of this kind, next incorporated, was that of the Ruſſia-merchants; who having improved their trade and commerce in thoſe remote parts, were incorporated by Edward VI. greatly encouraged by queen Mary, and had their confirmation, with an inlargement of their privileges, from queen Elizabeth. This company is not very conſiderable at preſent; the trade of thoſe parts being moſtly carried on by private merchants, on paying the ſum of 5 l. to the company.

The Eaſtland-company, formerly called merchants of Elbin, were incorporated by queen Elizabeth, and by her greatly encouraged; but, like the former company, it is now become inconſiderable, the trade to Norway and Sweden being laid open by act of parliament.

The Turkey, or Levant-company, was likewiſe incorporated by the ſame princeſs, and its charter confirmed and enlarged by king James I. who impowered them to trade to the Levant, or eaſtern parts of the Mediterranean; particularly to Smyrna, Aleppo, Alexandria, Grand-Cairo, and the other parts of the turkiſh dominions. But this trade is now alſo laid open to private merchants, upon paying a ſmall conſideration.

The next in order is the Eaſt-India-company, firſt incorporated in the year 1600, and impowered to trade to all countries lying eaſtward of the cape of Good Hope. Towards the end of king William's reign, an act of parliament paſſed, granting all private merchants, who ſhould raiſe a certain ſum for the ſupply of the government, the privilege of trading to theſe parts: accordingly, a great many ſubſcribed, and were called the new Eaſt-India company; which ſoon found it neceſſary to unite with the old one, and trade with one joint ſtock: ſince which time, they have been ſtiled the united Eaſt India-company; and are, at preſent, in a flouriſhing condition, and in poſſeſſion of many conſiderable forts and factories on the coaſt of Malabar, the Coromandel-coaſt, the bay of Bengal, *&c.*

The royal African company was firſt erected in the year 1661, with an excluſive privilege to trade from cape Blanc, on the coaſt of Africa, in 20° north latitude, as far as the cape of Good Hope. But this trade is now laid open by act of parliament. See the article AFRICAN.

The Eaſtland-company, the Greenland-company, the Hudſon's bay-company, the ſouth-ſea-company, have likewiſe their ſeveral charters and privileges for trading to the places from which they take their denominations.

Theſe are the principal trading companies belonging to the crown of Great-Britain; and of a ſimilar nature are the Dutch Eaſt and Weſt India-companies, the French Eaſt and Weſt-India companies, *&c.*

Concerning theſe companies, it may be proper to remark, that however neceſſary they might be in the infancy of trade, they are now looked upon by moſt men in the light of monopolies: hence it is, that their privileges have from time to time been leſſened, in order to eſtabliſh an abſolutely free and general trade; and experience hath ſhewn, that the trade of the nation has advanced in proportion as monopolies have been laid aſide. Indeed, to carry on trade with diſtant countries, where forces and forts are to be maintained, a company with a joint ſtock ſeems neceſſary; or, at leaſt, certain duties ought to be paid, by all who trade thither, towards defraying the ſaid expences: for not to ſpeak of the Eaſt India, Hudſon's-bay, *&c.* companies, the expence of maintaining whoſe forts muſt be very conſiderable, even the Turkey, Hamburgh, Muſcovy, and Eaſtland companies, which do not trade with a joint ſtock, are nevertheleſs obliged to be at conſiderable charges, in making preſents to the grand ſeignior and his miniſters, maintaining conſuls, *&c.* It would therefore be injuſtice that any ſhould trade to the places within their charters, without paying the ſame duties towards the companies charge, as the preſent adventurers pay; but then there appears to be no reaſon why any of the king's ſubjects ſhould be barred from trading to thoſe places, or forced to pay a great fine for admiſſion, that are willing to pay the company's duties, and ſubmit to their regulations and orders in other reſpects.

On the whole, as all reſtrictions of trade are found to be hurtful, nothing can be more evident than that no company whatſoever, whether they trade in a joint ſtock, or

or only under regulation, can be for the public good, except it may be eafy for all or any of his majefty's fubjects to be admitted into all or any of the faid companies, at any time, and for a very inconfiderable fine.

COMPANY, in military affairs, a fmall body of foot, commanded by a captain, who has under him a lieutenant and enfign.

The number of centinels, or private foldiers in a company, may be from 50 to 80; and a battalion confifts of thirteen fuch companies, one of which is always grenadiers, and pofted on the right: next them ftand the eldeft company, and on the left the fecond company; the youngeft one being always pofted in the center.

Companies not incorporated into regiments are called irregulars, or independent companies.

Artillery COMPANY. See the article ARTILLERY.

COMPANY *of fhips*, a fleet of merchantmen, who make a charter-party among themfelves, the principal conditions whereof ufually are, that certain veffels fhall be acknowledged admiral, vice-admiral, and rear admiral; that fuch and fuch fignals fhall be obferved; that thofe which bear no guns, fhall pay fo much *per cent.* of their cargo; and in cafe they be attacked, that what damages are fuftained, fhall be reimburfed by the company in general. In the Mediterranean, fuch companies are called conferves.

Rule of COMPANY, in arithmetic, the fame with fellowfhip. See FELLOWSHIP.

COMPARATES, *comparata*, among logicians, denote the terms of a comparifon, or the fubjects compared to each other. See the article COMPARISON.

COMPARATIONE, or *punctum ex* COMPARATIONE, in conics. See the article PUNCTUM.

COMPARATIONIS HOMOGENEUM, in algebra. See the article HOMOGENEUM.

COMPARATIVE, in general, denotes fomething that is compared to another. Thus,

COMPARATIVE ANATOMY, is that branch of anatomy which confiders the fecondary objects, or the bodies of other animals; ferving for the more accurate diftinctions of feveral parts, and fupplying the defect of human fubjects.

It is otherwife called the anatomy of beafts, and fometimes zootomy; and ftands in contradiftinction to human anatomy, or that branch of the art which confiders the human body, the primary object of anatomy. See ANATOMY.

COMPARATIVE DEGREE, among grammarians, that between the pofitive and fuperlative degrees, expreffing any particular quality above or beneath the level of another.

The French form moft of their comparatives by the addition of the particles *plus*, *moins*, and *auffi*: the Italians, by *piu*, *meno*, &c. as the quality of any thing is to be raifed, lowered, or equalled to another.

The englifh, of moft other modern languages, comes in this particular next the latin, which expreffes the comparative degree by a peculiar termination of its adjectives: thus, as the Latins fay, *lucidus*, *lucidior*, *lucidiffimus*; fo we fay in englifh, *bright*, *brighter*, *brighteft*. The fame holds in moft other inftances, as *formofus*, *formofior*, *formofiffimus*; in englifh, *fair*, *fairer*, *faireft*. Again, as the Latins have anomalous, or irregular degrees of comparifon, fo have the Englifh, and frequently in the fame inftances: thus, *bonus*, *melior*, *optimus* is expreffed in englifh, by *good*, *better*, *beft*; and fo in other examples. However, the regular comparative degree in englifh, is formed by adding the fyllable *er*, or prefixing the word *more*, to the pofitive degree: thus, from *long*, *narrow*, &c. are formed *longer*, *narrower*; and from *wife*, *prudent*, &c. come *more wife*, *more prudent*, &c.

COMPARISON, in a general fenfe, the confideration of the relation between two perfons or things, when oppofed and fet againft each other, by which we judge of their agreement or difference, and find out wherein the one has the advantage of the other.

COMPARISON *of ideas*, among logicians, that operation of the mind whereby it compares its ideas one with another, in regard of extent, degree, time, place, or any other circumftance, and is the ground of relations. This is a faculty which the brutes feem not to have in any great degree. See IDEA and RELATION.

COMPARISON, in grammar, the inflection of the comparative degree. See the article COMPARATIVE.

COMPARISON, in rhetoric, a figure that illuftrates and fets off one thing, by refembling and comparing it with another, to which it bears a manifeft relation and refem-

resemblance, as the following figure in Shakespear.

"She never told her love,
"But let Concealment, like a worm
"i'the bud,
"Feed on her damask cheek: she
"pined in thought,
"And sat like Patience on a monu-
"ment,
"Smiling at Grief."

COMPARTIMENT, or COMPARTMENT. See the article COMPARTMENT.

COMPARTITION, in architecture, denotes the useful and graceful disposition of the whole ground-plot of an edifice, into rooms of office, and of reception or entertainment. See the article BUILDING.

COMPARTMENT, or COMPARTIMENT, in general, is a design composed of several different figures, disposed with symmetry, to adorn a parterre, a ceiling, &c.

A compartment of tiles, or bricks, is an arrangement of them, of different colours, and varnished, for the decoration of a building. Compartments, in gardening, are an assemblage of beds, plats, borders, walks, &c. disposed in the most advantageous manner that the ground will admit of. Compartments, in heraldry, are otherwise called partitions.

COMPASS, or *Mariner's* COMPASS, an instrument whereby the ship's course is determined.

This instrument, which is a representation of the horizon, is a circle divided into 32 equal parts, by right lines drawn from the center to the circumference, called points, or rumbs, being also divided into 360 equal parts, or degrees; and consequently, the distance between, or angle formed by any two rumbs, is equal to 11° 15′. The four principal of these rumbs are called the cardinal points, and take their names from the places to which they tend, *viz.* that which extends itself under the meridian, pointing towards the north, is called north; and its opposite one, pointing towards the south, is called south; that which is towards the right hand, the face being directed north, is termed east; and its opposite, west. The names of the others are compounded of those, according to their situation, as may be seen in plate XLVI. fig. 3. N°. 1. On the backside of the north and south points is fastened a needle, which, being touched with a magnet or loadstone, is endued with a magnetic virtue, whereby the north and south points are nearly directed towards the north and south points of the horizon; and is, therefore, of the greatest use in determining the ship's course, and alteration of the winds. See VARIATION.

In the center of this card is fitted a brass cone, or cape, a little concave, which, being placed upon a pivot, fixed perpendicularly in the middle of the box, plays at liberty on the pivot: the top of the box is covered with a glass, that the motion of the card may be observed. The whole is inclosed in another box, where it is sustained by brass hoops, to keep it always in a horizontal position. See a perspective view of it, *ibid.* N°. 2.

The invention of this instrument is, by some, attributed to one John Goia, of Amalphi, in Campania, in the kingdom of Naples, who made the card thereof to consist of only eight points, *viz.* the four cardinal, and four collateral ones. Others say, it was the invention of the people of China; and Gilbert, in *libro de magnete*, affirms that Paulus Venetus brought it first into Italy, in the year 1260, having learned it from the Chinese; and Ludi Vertomanus affirms, that when he was in the East-Indies, about the year 1500, he saw a pilot of a ship direct his course, by a compass, fastened and formed like those now commonly used.

And Mr. Barlow, in his navigator's supply, *anno* 1597, says, that in a personal conference with two East Indians, they affirmed, that, instead of our compass, they use a magnetical needle of six inches, and longer, upon a pin, in a dish of white china earth, filled with water, in the bottom whereof they have two cross lines, for the principal winds, the rest of their divisions being left to the skill of their pilots.

COMPASS is also an instrument in surveying of land, dialling, &c. whose structure is chiefly the same with that of the mariner's compass; and, like that, consists of a box and needle; the principal difference being this, that, instead of the needle's being fitted into the card, and playing with it on a pivot, it here plays alone.

This instrument is of manifest use to travellers, to direct them in their road; and to miners, to shew them what way to dig, &c. but the more considerable uses of this compass in taking the declination of a wall, in taking of angles, and plots of a field, &c. may be seen in the

the articles SURVEYING, DIALING, CIRUMFERENTOR, &c.

Azimuth COMPASS. See the article AZIMUTH *Compass*.

This instrument consists of a card, moving in a box, like a mariner's compass; and on the top of the box, is a concentric circle of brass, plate XLVI. fig. 4. one semicircle whereof is divided into 90 equal parts, or degrees, numbering from the middle of the said divisions, both ways, with 10, 20, &c. to 45°; which degrees are also divided into minutes, by diagonal lines and circles: but these graduating lines are drawn from the opposite part of the circle, *viz.* from the *b* wherein the index turns in time of observation. *b c* is that index moveable about the point *b*, having a sight *b a* erected thereon, which moves with a hinge, that so it may be raised or laid down, according to necessity. From the upper part of this sight, down to the middle of the index, is fastened a fine hypothenusal lute-string, or thread *d e*, to give a shadow upon a line that is in the middle of the said index.

The reason of making the index move upon a pin fastened in *b* is, that the degrees and divisions may be larger; for now they are as large again as they would have been, if divided from the center, and the index made to move thereon; and consequently are only 90, instead of 180.

The above-mentioned broad circle of brass is crossed at right angles, with two threads; and from the end of these threads are drawn four small black lines, on the inside of the round box; also there are four right lines drawn at right angles to each other, on the card.

This round box, thus fitted with its card, graduated circle, index, &c. is to be hung in the brass hoops B B, and these hoops are fastened to the great square wooden box C C.

The use of the azimuth compass.

1. To find the sun or star's magnetic amplitude: Turn the whole compass-box to and fro, till each point of the brass compass lies directly above its corresponding point of the compass card; and let the ship be kept stemming the same point; turn the index towards the sun or star, at its rising or setting, till the two threads of the index be in a right line with the object; and that side of the index corrresponding with the center of the instrument, will cut on the brass circle the degree, &c. of the object's magnetic amplitude, in quantity and quality, which is best counted from the nearest meridian point, easterly or westerly.

2. To find the sun or star's magnetic azimuth, or what point of the compass the object is upon, after it is above the horizon: Turn the whole compass-box to and fro, till the points of the brass compass coincide with those on the compass card, and let the ship be stemming that point; turn the index towards the object, till the shadow of the thread fall on the backside of the index, or you see the two threads in a right line with the object; then will that side of the index, respecting the center, cut on the brass circle the object's magnetic azimuth.

COMPASS-DIALS are small horizontal dials, fitted in brass or silver boxes, for the pocket, to shew the hour of the day, by the direction of a needle, that indicates how to place them right, by turning the dial about, till the cock or style stand directly over the needle, and point to the northward: but these can never be very exact, because of the variations of the needle itself. See the articles DIAL and NEEDLE.

COMPASSES, or *pair of* COMPASSES, a mathematical instrument for describing circles, measuring figures, &c.

The common compasses consist of two sharp-pointed branches, or legs, of iron, steel, brass, or other metal, joined at top by a rivet, whereon they move as on a center. See plate XLVII. N°. 1.

The principal perfection of this, as of all other compasses, consists in the easy and uniform opening and shutting of their legs; one of which may be taken out, in order to make room for others.

There are now used compasses of various kinds and contrivances, accommodated to the various uses they are intended for; as,

COMPASSES *of three legs* are, setting aside the excess of a leg, of the same structure with the common ones: their use being to take three points at once, and so to form triangles; to lay down three positions of a map, to be copied at once, &c. *ibid.* N° 2.

Beam COMPASSES consist of a long branch, or beam, carrying two brass cursors, the one fixed at one end, the other sliding along the beam, with a screw to fasten it on occasion, *ibid.* N°. 3.

To the cursors may be screwed points of any kind, whether steel, for pencils, or the like. It is used to draw large circles, to take great extents, &c.

Caliber COMPASSES. See the article CALIBER.

Clockmaker's COMPASSES are joined like the common compaſſes, with a quadrant, or bow, like the ſpring compaſſes; only of different uſe, ſerving here to keep the inſtrument firm at any opening. They are made very ſtrong, with the points of their legs of well tempered ſteel, as being uſed to draw lines on paſte-board or copper, *ibid.* N° 4.

Cylindrical and ſpherical COMPASSES, conſiſt of four branches, joined in a center, two of which are circular, and two flat, a little bent on the ends: their uſe is to take the diameter, thickneſs or caliber of round or cylindric bodies; ſuch as cannons, pipes, *&c. ibid.* N°. 5.

For the method of uſing them, ſee the article CALIBER *Compaſſes.*

Elliptic COMPASSES conſiſt of a croſs A B G H, with grooves in it, and an index C E, which is faſtened to the croſs by means of dove-tails at the points C D, that ſlide in the grooves; ſo that when the index is turned about, the end E will deſcribe an ellipſis, which is the uſe of theſe compaſſes, *ibid.* N°. 6.

German COMPASSES have their legs a little bent outwards, towards the top, ſo that when ſhut, the points only meet, *ibid.* N°. 7.

Lapidary's COMPASSES are a piece of wood, in form of the ſhaft of a plane, cleft at top, as far as half its length: with this they meaſure the angles, *&c.* of jewels and precious ſtones, as they cut them. There is in the cleft a little braſs rule, faſtened there at one end by a pin; but ſo that it may be moved in manner of a braſs level: with this kind of ſquare they take the angles of the ſtones, laying them on the ſhaft, as they cut them.

Proportional COMPASSES are ſuch as have two legs, but four points, which, when opened, are like a croſs, as not having the joint at the end of the legs like common compaſſes: ſome of theſe have fixed joints, others moveable ones; upon the legs of the latter of which are drawn the lines of chords, ſines, tangents, *&c.* as on the ſector, *ibid.* N°. 8. where A repreſents the ſimple kind, and B, that marked with the ſector lines.

Their uſe is to divide lines and circles into equal parts; or to perform the operations of the ſector, at one opening of them. See the articles SECTOR, PROPORTION, and PROPORTIONAL.

Sailor's COMPASSES, a kind much uſed by ſeamen on account of their uſefulneſs in working traverſes. Its conſtruction is repreſented, *ibid.* N°. 9.

Spring COMPASSES, or DIVIDERS, thoſe with an arched head, which by its ſpring opens the legs; the opening being directed by a circular ſcrew, faſtened to one leg, and let through the other, worked with a nut. Thoſe compaſſes are made of hardened ſteel, *ibid.* N°. 10.

Triangular COMPASSES. See the article TRIANGULAR.

Triſecting COMPASSES conſiſt of two central rules, and an arch of a circle of 120 degrees, immoveable, with its radius; which is faſtened with one of the central rules, like the two legs of a ſector, that the central rule may be carried through all the points of the circumference of the arch. The radius and rule ſhould be as thin as poſſible; and the rule faſtened to the radius ſhould be hammered cold, to attain the greater elaſticity; and the breadth of the central rule ſhould be triple that of the radius: there muſt be alſo a groove in this rule, with a dove-tail, faſtened on it, for its motion, and a hole in the center of each rule: The uſe of this inſtrument is to facilitate the triſection of angles geometrically: and it is ſaid to have been invented by M. Tarragen for that purpoſe.

Turn up COMPASSES. The body of this inſtrument is like the common compaſſes, but towards the bottom of the legs, without ſide, are added two other points, beſides the uſual ones: the one whereof carry a drawing pen-point, the other a portcraion, both adjuſted ſo as to turn round, and ſo be in the way of uſe, or out of it, as occaſion requires. Theſe compaſſes have been contrived in order to ſave the trouble of changing the points.

COMPEIGN, a city of France, ſituated on the river Oyſe, about forty-five miles north-eaſt of Paris: eaſt longitude 3°, north latitude 49° 30′.

COMPENDIUM, in matters of literature, denotes much the ſame with epitome, or abridgment. See ABRIDGMENT.

COMPENSATION, in a general ſenſe, an action whereby any thing is admitted as an equivalent to another.

COMPENSATION, in the civil law, a ſort of right, whereby a debtor, ſued by his creditor for the payment of a debt, demands that the debt may be compenſated with what is owing him by the creditor, which, in

in that cafe, is equivalent to payment.

COMPERTORIUM, in the civil law, fignifies a judicial inqueft made by delegates to fearch out and relate the truth of a cafe.

COMPETENCE, or COMPETENCY, in law, the right or authority of a judge, for taking cognizance of any matter. See the article JURISDICTION.

COMPITALIA, or COMPITALITIA, in roman antiquity, feafts inftituted by Servius Tullius in honour of the Lares. See the article LARES.

Thefe feafts were obferved on the 12th of January, and 6th of March.

Tarquinius Superbus, confulting the oracle upon the fubject of the facrifices to be offered on that occafion, was anfwered that he fhould offer heads to the Lares: for which reafon, the Romans prefented the heads of young children in facrifice to thofe deities. But Junius Brutus ordered poppy heads to be offered in their ftead. Macrobius relates, that they fatisfied the Lares, by offering the images of men and women made in ftraw; and that for each flave in their family, they threw in fo many bales of wool.

COMPLEMENT, in aftronomy, the diftance of a ftar from the zenith: or the arch comprehended betwe[illegible] the place of the ftar above the horizon, and the zenith.

COMPLEMENT, in geometry, is what remains of a quadrant of a circle, or of 90°, after any certain arch has been taken away from it. Thus, if the arch taken away be 40°, its complement is 50: becaufe $50+40=90$. The fine of the complement of an arch is called the cofine, and, that of the tangent, the co-tangent, &c.

COMPLEMENT *of the courfe*, in navigation, is the number of points the courfe wants of 90°, or eight points, *viz.* of a quarter of the compafs. See *Mariner's* COMPASS.

COMPLEMENT *of the curtin*, in fortification, is that part of it which makes the demigorge. See the articles CURTIN and DEMIGORGE.

COMPLEMENT *of the line of defence*, is the remainder of the line of defence, after the angle of the flank is taken off. See the articles ANGLE and DEFENCE.

COMPLEMENTS *in a parallelogram*, are the two fmaller parallelograms GAE, FCE (plate XLIX. fig. 2.) made by drawing two right lines GE, and FE, through the point E, in the diagonal; and parallel to the fides A B, B C, of a parallelogram A B C D.

4

In every parallelogram, thefe complements are equal. See PARALLELOGRAM.

COMPLEX, in a more general fenfe, a term fynonymous with compound, tho' in ftrictnefs of fpeech there is fome difference. See the article COMPOUND.

COMPLEX *terms, or ideas*, in logic, are fuch as are compounded of feveral fimple ones. See the articles TERM and IDEA.

Complex ideas are often confidered as fingle and diftinct beings, tho' they may be made up of feveral fimple ideas, as a body, a fpirit, a horfe, a flower: but when feveral of thefe ideas of a different kind are joined together, which are wont to be confidered as diftinct, fingle beings, they are called a compounded idea, whether thefe united ideas be fimple or complex. Complex ideas, however compounded and recompounded, tho' their number be infinite, and their variety endlefs, may be all reduced under thefe three heads, modes, fubftances, and relations.

COMPLEX *propofition*, is either that which has at leaft one of its terms complex, or fuch as contains feveral members, as caufal propofitions: or it is feveral ideas offering themfelves to our thoughts at once, whereby we are led to affirm the fame thing of different objects, or different things of the fame object. Thus, *God is infinitely wife, and infinitely powerful.* In like manner, in the propofition, *Neither kings nor people are exempt from death.*

COMPLEXION, *complexio*, among phyficians, the temperament, habitude, and natural difpofition of the body, but more often the colour of the face and fkin.

A fair, florid, and clear complexion, fhow the purity and pellucidnefs of the lymphatic fluids: if it be livid, lurid, and yellow, they difcover a falino-fulphureous impurity of the fame, and a difordered fecretion in the proper organs, efpecially the liver. In regard to the natural difpofition of the body, antient phyficians and philofophers diftinguifhed four principal complexions in man, *viz.* the fanguine complexion, anfwering to the air, and fuppofed to have the qualities thereof, as being hot and moift; the phlegmatic complexion, being cold and moift, correfponding with water; the bilious and choleric complexion, being hot and dry, fuppofed of the nature of a fire; and the melancholic complexion, being cold and dry, partaking of the nature of earth. However, thefe diftinctions are at prefent little regarded.

COMPE-

Complexion, in logic, a term sometimes applied to the second operation of the mind, called judgment. See the article Judgment.

Complexion, in metaphysics, the union or coalition of several things different from each other, either really or imaginary.

Complexion, in rhetoric, a figure including a repetition and a conversion at the same time, the sentence both beginning and ending with the same word. See Repetition and Conversion.

COMPLEXUS, in anatomy, a broad and pretty long muscle, lying along the back-part and side of the neck: it is fixed below to the vertebræ of the neck, and above, to the upper transverse line of the os occipitis. There is one of these on each side; and both acting together, they pull the head directly backwards; whereas, if only one acts, it draws the head obliquely back.

Complexus minor, in anatomy, a narrow, long, and slender muscle, lying along the inside of the neck, and otherwise called *mastoidæus lateralis*. See the article Muscle.

COMPLICATION, in general, denotes the blending, or rather interweaving, of several different things together: thus a person afflicted with several disorders at the same time, is said to labour under a complication of diseases.

COMPONED, Compone, or Gobony, in heraldry, is said of a bordure made up of angular parts, or chequers, of two different colours. See plate LIV. fig. 1.

Counter-Componed. See Counter.

COMPOS, or rather Non Compos, in law. See Non Compos Mentis.

COMPOSITE, in general, denotes something compounded or made up of several others united together. Thus,

Composite numbers, are such as can be measured exactly by a number exceeding unity; as 6 by 2 or 3, or 10 by 5, &c. so that 4 is the lowest composite number. Composite numbers, between themselves, are those which have some common measure besides unity; as 12 and 15, as being both measured by 3.

Composite order, in architecture, the least of the five orders of columns; so called because its capital is composed out of those of the other columns, borrowing a quarter round from the tuscan and doric, a row of leaves from the corinthian, and volutes from the ionic. Its corniche has simple modillions or dentils. It is also called the roman or italic order, as having been invented by the Romans. By most authors it is ranked after the corinthian, either as being the next richest, or the last invented.

Scamozzi, and after him M. Le Clerc, make the column of this order nineteen modules and a half, being less by half a module than that of the corinthian, as in effect the order is less delicate than the corinthian. Vignola makes it twenty, which is the same with that of his corinthian: but Serlio, who first formed it into an order, by giving it a proper entablature and base, and after him M. Perrault, raise it still higher than the corinthian. See plate XLVIII.

M. Perrault, in his Vitruvius, makes a distinction between the composite and composed order. The latter, he says, is any composition whose parts and ornaments are extraordinary and unusual; but have, withal, somewhat of beauty, both on account of their novelty, and in respect of the manner or genius of the architect: so that a composed order is an arbitrary, humorous composition, whether regular, or irregular.

For the parts of this order, see the articles Base, Capital, Column, Entablature, Frieze, Pedestal, &c.

COMPOSITION, *compositio*, in a general sense, the uniting or putting together several things, so as to form one whole, called a compound.

Composition *of ideas*, an act of the mind, whereby it unites several simple ideas into one conception, or complex idea.

When we are provided with a sufficient stock of simple ideas, and have, by habit and use, rendered them familiar to our minds, they become the component parts of other ideas, still more complicated; and form, what we may call, a second order of compound notions. This process, as is evident, may be continued to any degree of composition we please, mounting from one stage to another, and enlarging the number of combinations.

Composition, in grammar, the joining of two words together; or prefixing a particle to another word, to augment, diminish, or change its signification. See the article Word.

Composition, in logic, a method of reasoning, whereby we proceed from some general

general ſelf-evident truth, to other particular and ſingular ones.

In diſpoſing and putting together our thoughts, there are two ways of proceeding, equally within our choice: for we may ſo propoſe the truths, relating to any part of knowledge, as they preſented themſelves to the mind, in the manner of inveſtigation; carrying on the ſeries of proofs in a reverſe order, till they, at laſt, terminate in firſt principles: or beginning with theſe principles we may take the contrary way, and from them deduce, by a direct train of reaſoning, all the ſeveral propoſitions we want to eſtabliſh.

This diverſity, in the manner of arranging our thoughts, gives riſe to the twofold diviſion of method eſtabliſhed among logicians, the one called analytic method, or the method of reſolution, inaſmuch as it traces things back to their ſource, and reſolves knowledge into its firſt and original principles. This method ſtands in contradiſtinction to the method of compoſition; or, as it is otherwiſe called, the ſynthetic method: for here we proceed by gathering together the ſeveral ſcattered parts of knowledge, and combining them into one ſyſtem, in ſuch a manner, as that the underſtanding is enabled diſtinctly to follow truth through all the different ſtages of gradations.

Composition, in muſic, the art of diſpoſing muſical ſounds into airs, ſongs, &c. either in one or more parts, to be ſung by a voice, or played on inſtruments. See the articles Music and Song.

Under compoſition are comprehended the rules. 1. Of melody, or the art of making a ſingle part; that is, contriving and diſpoſing the ſimple ſounds, ſo as that their ſucceſſion and progreſſion may be agreeable to the ear. See Melody.

2. Of harmony, or the art of diſpoſing and concerting ſeveral ſingle parts together, ſo as that they make one agreeable whole. See the article Harmony.

It may be proper to obſerve here, that melody being chiefly the buſineſs of the imagination, the rules of its compoſition ſerve only to preſcribe certain limits to it, beyond which the imagination, in ſearching out the variety and beauty of airs, ought not to go: but harmony being the work of the judgment, its rules are more certain and extenſive, and more difficult in practice.

Composition, in oratory, the coherence and order of the parts of a diſcourſe.

To compoſition belong both the artful joining of the words, whereof the ſtile is formed, and whereby it is rendered ſoft and ſmooth, gentle and flowing, full and ſonorous; or the contrary; and the order, which requires things firſt in nature and dignity, to be put before thoſe of inferior conſideration.

Composition, in painting, conſiſts of two parts, invention and diſpoſition; the firſt whereof is the choice of the objects, which are to enter into the compoſition of the ſubject the painter intends to execute, and is either ſimply hiſtorical or allegorical. See the article Invention.

The other very much contributes to the perfection and value of a piece of painting.

Composition, in pharmacy, the method of mixing and compounding medicines of different qualities, ſo that they may aſſiſt each other's virtues, or ſupply each other's defects. See Pharmacy.

Composition, in commerce, a contract between an inſolvent debtor and his creditors, whereby the latter accept of a part of the debt in compenſation for the whole, and give a general acquittance accordingly.

Composition, in printing, commonly termed compoſing, the arranging of ſeveral types or letters, in the compoſing-ſtick, in order to form a line; and of ſeveral lines ranged in order in the galley, to make a page; and of ſeveral pages, to make a form.

Generally the compoſing-ſtick is made of iron, ſometimes of wood, more or leſs in length or depth, according to the page to be compoſed, or the fancy of the compoſitor. It has two ſliding pieces, faſtened by means of a nut and ſcrew, which are ſliped forwards or backwards, according to the ſpace which the lines, notes, &c. are to take up, or the compoſitor thinks proper. The compoſing-ſtick ordinarily contains ſeven or eight lines of a middle ſized-letter: theſe lines, when ſet, are taken out, by means of a thin ſlip of braſs, called a rule, and diſpoſed in the galley: then others are compoſed, until a page is formed, which being done, it is tied up and ſet by: the reſt of the pages that make up a ſheet, being prepared in the ſame manner, are carried to the impoſing or correcting-ſtone, and being there ranged in order, they are diſpoſed in an iron frame, fitted with wooden furniture: then the quoins being ſtruck in, the chaſe, or frame, is put in the preſs,

in

in order to their being printed. See the article PRINTING, &c.

COMPOSITION *of motion*, is an aſſemblage of ſeveral directions of motion, reſulting from ſeveral powers acting in different, though not oppoſite, directions.

The doctrine of compoſition and reſolution of motion, is founded on Sir Iſaac Newton's ſecond law of nature, *viz.* "The change of motion is always "proportionable to the moving force "impreſſed, and is always made ac- "cording to the right line in which "that force is impreſſed."

Let the body B (plate XLIX. fig. 4.) be impelled by the body A, in the direction *b c*, with a force that would, in a given time, cauſe it to move from *b* to *c*; at the ſame inſtant let another body C ſtrike it in the direction *b d*, with a force that will carry it from *b* to *d*, in the ſame time: then completing the parallelogram *b c e d*, and drawing the diagonal *b e*, this laſt will repreſent the direction and diſtance through which the body will move, in the ſame time, by both the forces conjointly.

This is evident, if we conſider that the force impreſſed by the body C, does no way diminiſh the velocity of a body approaching to the line *c e*, at the end of the given time, and therefore it will then be found ſomewhere in the ſaid line *c e*: for the ſame reaſon it will, at the end of the ſaid time, be carried to a diſtance from *b c* equal to *b d*; and therefore it muſt alſo, at the ſame moment, be found ſomewhere in the line *d e*; but it cannot be in the lines *c e* and *d e* at the ſame time, unleſs in that point *e*, where they interſect each other, as the propoſition aſſerts.

We may now conceive the body B moving by the ſingle impulſe of ſome power in the direction *b e*, ſuch as will carry it through the ſpace *b e* in a given time; then this may be reſolved into any other two forces acting in the directions *b e* or *d e*, and *b d* or *c e*, which lines will alſo repreſent the efficacy of ſaid forces in the ſame time.

COMPOSITION *of proportion*, is the comparing the ſum of the antecedent and conſequent, with the conſequent in two equal ratios; as ſuppoſe, 4 : 8 : : 3 : 6, they ſay, by compoſition of proportion, 12 : 8 : : 9 : 6.

The ſame holds of the ſum of the antecedent and conſequent, compared with the antecedent: thus we likewiſe ſay, 12 : 4 : : 9 : 3.

There is a great difference between compoſition of proportion by addition and by multiplication. See PROPORTION.

COMPOST, in huſbandry and gardening, ſeveral ſorts of ſoils, or earthy matter, mixed together, in order to make a manure, for aſſiſting the natural earth in the work of vegetation, by way of amendment or improvement.

Compoſts are various, and ought to be different, according to the different nature or the quality of the ſoils which they are deſigned to meliorate, and according as the land is either light, ſandy, looſe, heavy, clayey, or cloddy. A light, looſe land, requires a compoſt of a heavy nature, as the ſcouring of deep ditches, ponds, &c. ſo, on the other hand, a land that is heavy, clayey, or cloddy, requires a compoſt of a more ſprightly and fiery nature, that will inſinuate itſelf into the lumpiſh clods, which, if they are not thus managed, would very much obſtruct the work of vegetation. See CLAY, &c.

The great uſe of compoſts, is for ſuch plants as are preſerved in pots, or tubs; or ſometimes it is uſed for ſmall beds, or borders of flower-gardens: but it is too expenſive to make compoſts for large gardens, where great quantities of ſoil is required. In making of compoſts, great care ſhould be had that the ſeveral parts are properly mixed together, and not to have too much of any one ſort thrown together.

COMPOSTELLA, the capital of Galicia, in Spain, remarkable for the devotion paid there by pilgrims from all countries, to the relics of St. James.

COMPOSTO, in muſic, means compounded or doubled, as a fifteenth is an octave doubled, or an octave is compounded of a fifth and a fourth.

COMPOUND, in a general ſenſe, an appellation given to whatever is compoſed, or made up of different things: thus we ſay, a compound word, compound ſound, compound taſte, compound force, &c. See the articles WORD, SOUND, &c.

COMPOUND-FLOWER, one conſiſting of ſeveral diſtinct leſſer flowers, or corollulæ, each furniſhed with a ſtyle, ſtamina, &c. See the article FLOWER.

The corollulæ are of two kinds, *viz.* tubulated, and ligulated: the tubulated ones are always furniſhed with a campanulated limb, divided into four or five ſeg-

segments; whereas the ligulated corollulæ have only a flat, linear limb, terminated by a single point, or by a broader extremity, divided into three or five segments.

The plants with compound flowers are extremely numerous, forming a class by themselves, called by Linnæus syngenesia. See the article SYNGENESIA.

COMPOUND-INTEREST. See the article INTEREST.

COMPOUND-MOTION, that effected by the concurring action of several different powers. Thus if one power act in the direction of, and with a force proportional to the end of a parallelogram; and another act in the direction of, and with a force proportional to its side, the compound motion will be in the direction of, and proportional to, the diagonal of the said parallelogram. See COMPOSITION.

COMPOUND NUMBERS, those which may be divided by some other number besides unity, without leaving any remainder: such are 18, 20, &c. the first being measured by the numbers 2, 6, or 9; and the second, by the numbers 2, 4, 5, 10.

COMPOUND PENDULUM, QUANTITIES, &c. See the articles PENDULUM, QUANTITY, &c.

COMPREHENSION, in logics, the same with apprehension.

COMPREHENSION, or SYNECDOCHE, a trope or figure in rhetoric, which puts the name of the whole for a part; or of a part for the whole; a general for a particular of the same kind; or a particular for a general. By this trope a round and certain number is often set down for an uncertain one.

COMPRESS, in surgery, a bolster of soft linen cloth, folded in several doubles, frequently applied to cover a plaster, in order not only to preserve the part from the external air, but also the better to retain the dressings, or medicines.

Compresses are frequently applied where no plaster is made use of; and that sometimes dry, sometimes wetted with certain liquors, which are supposed to be strengthening, resolving, lenient, emollient, or cooling, which are administred hot or cold, as the circumstances of the case shall require. Compresses of all kinds are intended for these purposes. 1. To preserve and cherish the natural heat of the body. 2. To secure the dressings that lie under them. 3. To convey liquid remedies to parts wounded, or otherwise disordered, and to prolong the use of them. 4. To fill up any cavity or depressions of the parts; and, 5. To prevent bandages from bringing on a troublesome itching, or other pain or uneasiness upon the skin.

COMPRESSED, in general, is said of things whose sides are squeezed together, and consequently of a broad and flat figure.

COMPRESSED LEAF, among botanists, one with a mark or impression on both sides. See the article LEAF.

COMPRESSION, the act of pressing or squeezing some matter, so as to set its parts nearer to each other, and make it possess less space.

It is different from condensation, in that compression is performed with some external violence, but condensation by the action of cold. Thus the moderns say, that pumps do really act by compression, whereas the antients imagined they acted by suction: the embolus, or sucker, going and returning in a narrow tube, compresses the air inclosed in it, so as to enable it to raise the valve by the force of the elasticity, and make its escape; upon which, the balance being destroyed, the pressure of the atmosphere on the stagnant surface, drives up the water into the tube, thus evacuated of its air. See the article PUMP.

Water is incapable of being compressed, and no art or violence is able to bring its parts closer, or make it take up less space, after the air has been once purged out of it. It has been found by an experiment, made by the academy del Cimento, that water, being violently squeezed, made its way through the infinitely small pores of a ball of gold, rather than undergo a compression. The compression of air, by its own weight, is surprisingly great, for it appears, by calculation, that the common air we breathe near the surface of the earth, is pressed by a weight of the superincumbent atmosphere into $\frac{1}{13700}$ part of the space it would take up, if it were at liberty. See the article ATMOSPHERE.

But the air may be still further compressed by art; and it appears by Mr. Boyle's experiments, that the space which the air takes up when at its utmost dilatation, is to that which it takes up when most compressed, as 520000 to 1. See AIR.

COMPRESSOR, in anatomy, a muscle of the face, more usually known by the name of elevator alæ nasi.

COMPRINT, among booksellers, signifies

fies a furreptitious printing of another's copy, in order to gain thereby, which is exprefsly contrary to ftatute 14 Car. II.

COMPRISE, or NIENT COMPRISE. See the article NIENT COMPRISE.

COMPROMISE, a treaty, or contract, whereby two contending parties eftablifh one or more arbitrators, to judge of and terminate their difference in an amicable way.

The regular way of appointing a compromife is by writing, expreffing the names of the arbitrators, the power of choofing an umpire, or fuperior arbitrator, in cafe of need, a time limited for the arbitrage, and a penalty on the party that does not abide by the decifion. By the civil law, a flave cannot make a compromife without the leave of his mafter, nor a pupil without the authority of his guardian, or a wife without that of her hufband: fo a flave, a deaf or dumb man, a minor, and the perfon who is a party in the caufe, are incapable of being chofen arbitrators in a compromife. The occafions on which a compromife is not always allowed of, are reftitutions, marriage caufes, criminal affairs, queftions of ftate, and, generally, any thing wherein the public intereft is more concerned than that of private perfons.

COMPROMISE is alfo ufed in beneficiary matters; where it fignifies an act, whereby thofe who have the right of election, transfer it to one or more perfons, to elect one capable of the office or dignity.

COMPTING, or COMPTING-*Houfe*, an office, in the king's houfhold, under the direction of the lord-fteward; fo called, becaufe the accounts for all expences of the king's houfhold are there taken daily by the lord fteward, comptroller, cofferer, mafter of the houfhold, the two clerks of the green cloth, and the two clerks comptrollers. They alfo make provifion for the houfhold, and make payments and orders for the good government thereof.

In the Counting-houfe is the board of green cloth.

COMPTROL, or CONTROL. See the article CONTROL.

COMPTROLLER, or CONTROLLER. See the article CONTROLLER.

COMPULSOR, an officer under the roman emperors, difpatched from court into the provinces, to compel the payment of taxes, &c. not paid within the time prefcribed. Thefe were charged with fo many exactions, that Honorius cafhiered them.

COMPUNCTION, in theology, an inward grief of mind, for having offended God.

The roman catholics think their confeffions infignificant, unlefs attended with compunction, or inward grief of mind. Compunction, among fpiritualifts, implies not only a grief for having offended God, but alfo a pious fenfation of grief, forrow, and difpleafure, on other motives.

COMPURGATOR, in law, a perfon that by oath juftifies or clears another's innocence.

COMPUTATION, in a general fenfe, the manner of eftimating time, weights, meafure, monies, or quantities of any kind. See the article COIN, &c.

COMPUTATION, among mathematicians, is ufed in the like fenfe as calculation. See the article CALCULATION.

COMPUTATION *of a planet's motion.* See the article PLANET.

COMPUTATION, in law, is ufed in refpect of the true account or conftruction of time, fo underftood, as that neither party to an agreement, &c. may do wrong to the other; and that the determination of time be not left at large, or taken otherwife than according to the judgment and intention of law.

If a leafe is ingroffed, bearing date January 1, 1754, to have and to hold for three years, from henceforth, and the leafe is not executed till the fecond of January; in this cafe, the words from henceforth, fhall be accounted from the delivery of the deed, and not by any computation from the date. And if the leafe be delivered at four of the clock in the afternoon on the faid fecond day, it fhall end the firft day of January, in the third year; the law, in fuch computations, rejecting all fractions or divifions of the day.

COMPUTO, in law, a writ to compel a bailiff, receiver, or accountant, &c. to deliver up his accounts.

The fame lies for executors of executors, and againft the guardian in focage for wafte made in the minority of the heir.

CONARION, or CONOIDES, a name for the pineal gland, a fmall gland about the bignefs of a pea, placed in the upper part of that hole in the third ventricle of the brain, called the anus, and tied by fome fibres to the nates. See the articles BRAIN, and PINEAL GLAND.

CONATUS, a term frequently ufed in philofophy and mathematics, defined by fome to be a quantity of motion, not capable of being expreffed by any time, or length; as the *conatus recedendi ab axe motus*, is the endeavour which a body, moved circularly, does to recede, or fly off, from the center or axis of its motion. The conatus centrifugus, fometimes called the conatus excufforius, is always expreffed by the verfed fine of the angle of circulation: thefe conatus of bodies, revolving in equal circles, with an equable motion, are in a duplicate ratio, or as the fquares of their velocities: but if the bodies revolve in unequal circles, their conatus centrifugi will be in a ratio compounded of the ratios of the fquares of the velocities directly; and the fimple ratio of the radii of thefe circles inverfely. If the body defcribe equal areas in equal times, as in the cafe of the planets, which revolve in ellipfes round the fun, then the conatus centrifugi will be reciprocally as the cubes of the radii. See the articles MOTION, CENTRIFUGAL, &c.

CONCATENATION, a term chiefly ufed in fpeaking of the mutual dependence of fecond caufes upon each other. See CAUSE.

CONCAVE, an appellation ufed in fpeaking of the inner furface of hollow bodies, but more efpecially of fpherical ones.

CONCAVE GLASSES, fuch as are ground hollow, and are ufually of a fpherical figure, tho' they may be of any other, as parabolical, &c. All objects feen through concave glaffes, appear erect and diminifhed. The confufed appearance of a point, through any concave glafs, proceeds from the too great divergency of thofe rays which fall on the eye: wherefore, fince the more remote the eye is from the glafs, the lefs will the rays diverge; then the further the eye is from the concave glafs, the more diftinct will be the appearance of any object through it, though the more faint.

The apparent place of objects feen through concaves is always brought nearer to the eye, which is the reafon they help fhort fighted perfons, or fuch as can fee diftinctly only thofe objects that are very near them. The rule to fit concave glaffes to the eye of a nearfighted perfon, is this: let him obferve nicely the diftance at which he can read letters, or fee objects diftinctly, which fuppofe to be at twelve feet; then will a concave glafs, whofe virtual focus is a foot diftant from it, make that perfon fee diftant objects diftinctly. The farther the eye is removed from any concave glafs, the lefs the object appears, and a leffer area of it is feen; and when the glafs is exactly in the middle, between the eye and the object, the object will appear the moft diminifhed, that the diftance between the eye and the object will admit of. See the articles FOCUS, LENS, and MIRROR.

CONCAVITY, that property of bodies, on account of which they are denominated concave. See the preceding article.

An arch of a curve has its concavity turned one way, when the right lines that join any two of its points are all on the fame fide of the arch.

Archimedes, intending to include fuch lines as have rectilinear parts, in his difinition, fays, a line has its concavity turned one way, when the right lines that join any two of its points are either all upon one fide of it, or while fome fall upon the line itfelf, none fall upon the oppofite fide.

When two lines, having their concavity turned the fame way, have the fame terms, and the one includes the other, or has its concavity towards it, the perimeter of that which includes, is greater than the perimeter of that which is included.

CONCAVITY alfo denotes the whole fpace included with a concave furface, or the inner bend of a curve line.

CONCEALERS, in law, fuch perfons as find out concealed lands; that is, lands that are fecretly kept from the king, by common perfons that have nothing to fhew for their eftate or title therein.

CONCENTRATION, in general, fignifies the bringing things nearer a center. Hence the particles of falt, in fea water, are faid to be concentrated; that is, brought nearer each other, by evaporating the watery part: thus, alfo, wine is faid to be concentrated, when its watery parts are feparated in the form of ice by froft.

Dr. Shaw, in his effay on the diftillery, is for introducing a method of concentrating the fermentable parts of vegetables, from which their fpirits are to be drawn by diftillation; which, if it can be brought to be practifed in the large way, will prove of very great ufe to the britifh diftillery, as it will greatly fhorten the diftiller's bufinefs, which at prefent, including the brewing, fermenting, &c. is much

too long. He propoſes only to evaporate carefully the wort, or other tinctures or decoctions of vegetables made for the diſtilling of their ſpirits, to the conſiſtence of treacle: in this form they might be ſold to the diſtiller, who might keep them by him as long as he pleaſed, and occaſionally uſe them, by the eaſy method of reducing them into wort, by mixing warm water with them.

Some uſe the term concentration for the moſt intimate mixture, when the particles are not only brought within contact, but penetrate into each other.

CONCENTRIC, in mathematics, ſomething that has the ſame common center with another: it ſtands in oppoſition to excentric. See CENTER and EXCENTRIC.

Concentric is chiefly uſed in ſpeaking of round bodies and figures, or circular and elliptical ones, &c. but may be likewiſe uſed for polygons, drawn parallel to each other upon the ſame center. The method of Nonius for graduating inſtruments conſiſts in deſcribing with the ſame quadrant 45 concentric arches, dividing the outermoſt into 90 equal parts, the next into 89, &c.

CONCEPTACULUM, among botaniſts, a kind of pericarpium, compoſed of ſoft and leſs rigid valves, and containing only one cavity.

CONCEPTION, among phyſicians, &c. denotes the firſt formation of an embryo in the womb of its parent, who from that time becomes pregnant. See the articles GENERATION and PREGNANCY.

Immaculate CONCEPTION, a feſtival in the romiſh church, obſerved on the 8th of December, in commemoration of the holy virgin's having been conceived and born immaculate, or without original ſin. The immaculate conception of the virgin, though reckoned a pious opinion, is no article of faith in the romiſh church, ſeveral of whoſe members have oppoſed it.

CONCEPTION *of our lady*, a religious order in Portugal, founded in the XVth century. This order has ſince paſſed into Italy, and got footing in Rome and Milan. The religious, beſides the grand office of the franciſcans, recited on ſundays and holydays, have a leſſer office, called the office of the conception of the holy virgin.

CONCEPTION, in logic, is the ſimple apprehenſion or perception which we have of any thing, without proceeding to affirm or deny any thing about it.

There are rules by which we may guide and regulate our conceptions of things; which is the main buſineſs in logic; for moſt of our errors in judgment, and the weakneſs, fallacy, and miſtakes of our argumentation, proceed from the darkneſs, confuſion, defect, or ſome other irregularity in our conceptions. The rules are theſe; 1. To conceive of things clearly and diſtinctly in their own natures. 2. Completely in all their parts. 3. Comprehenſively in all their properties and relations. 4. Extenſively in all their kinds. 5. Orderly, or in a proper method.

CONCEPTION, in geography, a city of Chili, in South America, ſituated on the Pacific ocean, in 79° weſt longitude, and 37° ſouth latitude.

CONCEPTION is alſo the capital of the province of Veragua, in Mexico, about one hundred miles weſt of Porto Bello: weſt longitude 83°, and north latitude 10°.

CONCERT, or CONCERTO, in muſic, a number or company of muſicians, playing or ſinging the ſame piece of muſic or ſong, at the ſame time.

A concert for any inſtrument, as organ, harpſichord, violin, &c. is a piece of muſic, wherein either of thoſe inſtruments has the greateſt part; or in which the performance is partly alone, and partly accompanied by the other parts.

CONCERTANTE, thoſe parts of a piece of muſic, that ſing or play throughout the whole piece, either alone or accompanied, to diſtinguiſh theſe parts that play now and then in particular places.

CONCERTATO intimates the piece of muſic to be compoſed in ſuch a manner, as that all the parts may have their recitativos, be it for two, three, four, or more voices or inſtruments.

CONCERTO GROSSI, the grand chorus of a concert, or thoſe places where all the ſeveral parts perform or play together.

CONCESSI, in law, a term frequently uſed in conveyances. Its effect is to create a covenant, as *dedi* does a warranty.

CONCESSION, in rhetoric, a figure, whereby ſomething is freely allowed, that yet might bear diſpute, to obtain ſomething that one would have granted to him, and which he thinks cannot fairly be denied, as in the following conceſſion of Dido, in Virgil:

"The nuptials he diſclaims, I urge no more;
"Let him purſue the promis'd latian ſhore.
"A ſhort delay is all I aſk him now;
"A pauſe of grief, an interval from woe."

CONCHA,

CONCHA, a genus of bivalve ſhells, the animal inhabiting which is called tethys. See the article TETHYS.

This is a very comprehenſive genus, compriſing the oyſter, chama, muſcle, heart-ſhell, pecten, ſolen, &c. See the articles OYSTER, CHAMA, &c.

CONCHA SPECTRORUM, the SPECTRE-SHELL, a ſpecies of voluta. See the article VOLUTA.

CONCHA, in anatomy, the larger cavity of the external ear, ſituated before the meatus auditorius, or paſſage into the internal ear.

CONCHITES, in natural hiſtory, a petrified ſhell, of the concha-kind. See the article CONCHA.

CONCHOID, in geometry, the name of a curve, given it by its inventor, Nicomedes, and is thus generated.

Draw the right line QQ (plate XLIX. fig. 3.) and AC perpendicular to it in the point E; and from the point C draw many right lines CM, cutting the right line QQ in Q; and make QM = QN, AE = EF, *viz.* equal to an invariable line: then the curve, wherein are the points M, is called the firſt conchoid; and the other, wherein are the points N, the ſecond; the right line QQ being the directrix, and the point C the pole: and from hence it will be very eaſy to make an inſtrument to deſcribe the conchoid.

The line QQ is an aſymptote to both the curves, which have points of contrary flection. See the article ASYMPTOTE.

If QM = AE = a, EC = b, MR = EP = x, ER = PM = y; then will $a^2 b^2 - 2a^2 bx + a^2 x^2 = b^2 x^2 - 2bx^3 + x^4 + x^2 y^2$, and expreſs the nature of the ſecond conchoid; and $x^4 + 2bx^3 + y^2 x^2 + b^2 x^2 = a^2 b^2 + 2a^2 bx + a^2 x^2$, the nature of the firſt; and ſo both theſe curves are of the third kind.

This curve was uſed by Archimedes and other antients, in the conſtruction of ſolid problems; and Sir Iſaac Newton ſays that he himſelf prefers it before other curves, or even the conic ſections, in the conſtruction of cubic and biquadratic equations, on account of its ſimplicity and eaſy deſcription, ſhewing therein the manner of their conſtruction by help of it.

CONCHYLIA, a general name for all kinds of petrified ſhells, as limpets, cochlea, nautili, conchæ, lepades, &c.

CONCIATOR, the perſon who proportions and regulates the ſeveral ingredients which go to the making of cryſtal. See the article CRYSTAL.

CONCINNOUS INTERVALS, in muſic, are ſuch as are fit for muſic, next to, and in combination with, concords; being neither very agreeable, nor diſagreeable in themſelves, but having a good effect, as by their oppoſition they heighten the more eſſential principles of pleaſure; or as by their mixture and combination with them, they produce a variety neceſſary to our being better pleaſed.

CONCINNOUS SYSTEM, in muſic. A ſyſtem is ſaid to be concinnous, or divided concinnouſly, when its parts, conſidered as ſimple intervals, are concinnous; and are beſides placed in ſuch an order between the extremes, as that the ſucceſſion of ſounds, from one extreme to the other, may have an agreeable effect.

CONCLAMATION, in roman antiquity, a cuſtom of calling the dead party by his name, for eight days ſucceſſively; on the ninth, concluding him paſt all hopes of recovery, they carried him forth, and buried him. See the article BURIAL.

CONCLAVE, the place in which the cardinals of the romiſh church meet, and are ſhut up, in order to the election of a pope.

The conclave is a range of ſmall cells, ten feet ſquare, made of wainſcot: theſe are numbered, and drawn for by lot. They ſtand in a line along the galleries and hall of the Vatican, with a ſmall ſpace between each. Every cell has the arms of the cardinal over it. The conclave is not fixed to any one determinate place, for the conſtitutions of the church allow the cardinals to make choice of ſuch a place for the conclave as they think moſt convenient; yet it is generally held in the Vatican.

The conclave is very ſtrictly guarded by troops: neither the cardinals, nor any perſon ſhut up in the conclave, are ſpoke to, but at the hours allowed of, and then in italian or latin; even the proviſions for the conclave are examined, that no letters be conveyed by that means from the miniſters of foreign powers, or other perſons who may have an intereſt in the election of the pontiff.

CONCLAVE is alſo uſed for the aſſembly, or meeting, of the cardinals ſhut up, for the election of a pope.

After this aſſembly has continued three days, they are only allowed one diſh for one meal, and after five days, only bread and water: but this rule is not over-religiouſly obſerved.

CONCLUSION, in logic, the conſequence or

or judgment, drawn from what was asserted in the premises; or the previous judgments in reasoning, gained from combining the extreme ideas between themselves. See the article SYLLOGISM.

The conclusion of an argument contains two parts, the consequent, which is the matter of it; and the consequence, which is its form, and which, of a simple absolute proposition, renders the conclusion relative to the premises whence it was drawn. The question and the conclusion, say the schoolmen, are the same ideas, only considered in different views or relations. In the question they are considered as doubtful, in the conclusion as void of doubt.

CONCLUSION, in rhetoric, consists of two parts, the recapitulation, or enumeration, and the passions.

The recapitulation consists in a repetition of the principal arguments. See the article RECAPITULATION.

CONCLUSION, in law, is where a person, by his own act upon record, has charged himself with a duty or thing, or confessed any matter, whereby he shall be concluded; as where a sheriff returns on a capias, that he has taken the body, and has it not in the court at the day of the return of the writ; the sheriff by this return is concluded from a plea of escape.

CONCOCTION, in medicine, the change which the food undergoes in the stomach, &c. to become chyle. See CHYLE, CHYLIFICATION, and DIGESTION.

The first concoction is made in the stomach, by a kind of ferment, as several suppose, which partly remains there from the relics of the former meats, and partly flows thither from the cœliac arteries. The second is made in the guts, by the gall and pancreatic juice. The third is in the glandulæ of the mesentery, from the lympha, or water which mixes with the chyle. The fourth is in the lungs, from the mixture of the air in some measure with the blood there. The fifth is in the vessels and bowels, as in the spleen, liver, testicles, &c.

These five are accounted the several concoctions in the body, with regard to the preservation of the individual, and the propagation of the species. They are more particularly called, the first, chylosis, for chyle; the second, chymosis, for chyme; the third hæmatosis, for blood; the fourth, pneumatosis, for air, and the fifth, spermatosis, for seed.

CONCOMITANT, in theology, something that accompanies or goes along with another; as concomitant grace is that which God affords us, during the course of our actions, to enable us to perform them; and, according to the romish divines, to render them meritorious.

CONCOMITANT NECESSITY. See the article NECESSITY.

CONCORD, in grammar, that part of construction, or syntax, in which the words of a sentence agree; that is, in which nouns are put in the same gender, number and case; and verbs in the same number and person with nouns and pronouns. Generally in every language the rules of concord are the same, as being almost every where of the same nature, for the better distinguishing of discourse: thus, from the distinction of two numbers, namely, the singular and the plural, the adjective must be made to agree with the substantive accordingly; that is, the former is to be put in this or that number, as the latter is: for the substantive being what is confusedly, tho' directly marked by the adjective, should the substantive denote several, there are several subjects of that form signified by the adjective, and consequently this should be in the plural number, as *viri fortes*, &c. Again, as there is a distinction of masculine and feminine in most languages, there hence arises a necessity of putting the substantive and adjective in the same gender; and, in like manner, verbs should agree in number and person with nouns and pronouns: but should any thing, in writing or discourse, be apparently contrary to those rules above-mentioned, this is by some figure or other in grammar, whereby something is implied, or the ideas themselves are considered more than the words that represent them.

CONCORD, in common law, the agreement between parties, who intend to levy a fine of lands to one another, how and in what manner they shall pass.

CONCORD is also an agreement made between two or more, upon a trespass committed; and is divided into concord executory, and concord executed; the first of which, according to some opinions, does not bind, as being imperfect; but the latter, being absolute, binds the party.

CONCORD, in music, the relation of two sounds that are always agreeable to the ear, whether applied in succession or consonance. If two simple sounds be in such a relation, or have such a difference of tune, as that, being sounded together, they make a mixture or compound sound, which

which affects the ear with pleasure, that relation is called concord; and whatever sounds make an agreeable compound in consonance, the same will always be pleasing in succession, or will follow each other agreeably. The reverse of concords are what we call discords, which is a denomination of all the relations or differences of tune, that have displeasing effects. See the article DISCORD.

Concord and harmony are, in fact, the same thing, though custom has applied them differently; as concord expresses the agreeable effects of two sounds in consonance, so harmony expresses the agreement of a greater number of sounds in consonance.

Unisonance being the relation of equality between the tune of two sounds, all unisons are concords in the first degree; but an interval being a difference of tune, or a relation of inequality between two sounds, becomes a concord or discord, according to the different circumstances of that relation.

The differences of tune take their rise from the different proportions of the vibrations of a sonorous body; that is, from the velocity of those vibrations in their recourses: the more frequent these recourses are, the more acute is the tune, and *vice versa*. But the essential difference between concord and discord lies more remote. There does not appear any natural aptitude in two sounds of a concord, to give a pleasing sensation, more than in two of a discord; these different effects must be resolved into the divine will.

We know from experience, what proportions of tunes are pleasing, and what not; and we know likewise how to express the difference of tune by the proportion of numbers. We know what is pleasing, though we do not know why; for instance, we know that the ratios of 1 : 2 constitutes a concord, and 6 : 7 a discord; but on what original system, pleasing or displeasing ideas are connected with those relations, and their proper influence upon one another, is entirely above our reach.

We know that the following ratios of the length of chords, are concord, *viz.* 2 : 1, 3 : 2, 4 : 3, 5 : 4, 6 : 5, 5 : 3, 8 : 5; that is, by taking any chord for a fundamental, represented by 1, the following divisions thereof will be all concords with the whole, as $\frac{1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 3\ \ 5}{2.\ 3.\ 4.\ 5.\ 6.\ 5.\ 8}$; so that the characteristic of concords and discords must be looked for in these numbers expressing the intervals of sound, not abstractedly, but as exhibiting these numbers of vibrations.

The nearer the vibrations of any two strings approach to a coincidence as frequent as possible, the nearer they should approach to that condition, and consequently the agreement of unisons (which are in the first degree of concord, or have the most perfect agreement in tune) as is confirmed from experience. If we take the natural series 1, 2, 3, 4, 5, 6, and compare each number to the next, as expressing the number of vibrations of two chords, in the same time, whose lengths are reciprocally as those numbers, the rule will be found exact; for 1 : 2 is best, then 2 : 3; after 6 the consonance is insufferable, as the coincidences are too rare; though there are no other ratios that are agreeable, besides those found in that continued order, namely, 3 : 5 and 5 : 8, which, with the preceding five, are all the concording intervals within, or less than an octave, or 1 : 2, that is, whose acutest term is greater than half the fundamental. On this principle 3 : 5 will be preferable to 4 : 5, because being equal in the number of vibrations of the acuter term, there is an advantage on the side of the fundamental, in the ratio 3 : 5, where the coincidence is made at every third vibration of the fundamental; and every fifth of the acute term. In like manner, the ratio 5 : 8 is less perfect than 5 : 6, because though the vibrations of each fundamental, that go to one coincidence, are equal, yet in the ratio 5 : 6, the coincidence is at every sixth of the acute term, and only at every eighth in the other.

Thus we have a rule for judging of the preference of concords from the coincidence of their vibrations, as in the following table.

Ratios or Vibrations.	Grave Term.		Acute Term.	Coincid.
Unison	1	:	1	
Octave, 8ve	2	:	1	60
Fifth, 5th	3	:	2	30
Fourth, 4th	4	:	3	20
Sixth, greater	5	:	3	20
Third, greater	5	:	4	15
Third, lesser	6	:	5	12
Sixth, lesser	8	:	5	12
	Grave Lengths.		Acute	

Mr.

Mr. Carre, in the Memoirs of the Royal Academy of Paris, lays down a general propoſition to determine the proportion of cylinders that are to form the concords of muſic, namely, that the ſolid cylinders, whoſe ſounds produce thoſe concords, are in a triplicate and inverſe ratio of that of the numbers, which denote the ſame concords.

Concords are divided into original or ſimple, and compound. An original or ſimple concord is that whoſe extremes are leſs remote than the ſum of any other two concords. A compound concord is equal to two or more concords.

Other muſical writers ſtate the diviſion thus: an octave 1 : 2, and all the inferior concords above expreſſed, are ſimple ones; and all greater than an octave, are compound concords, as being compoſed of and equal to the ſum of one or more octaves, and ſome ſingle concord leſs than an octave; and are uſually, in practice called from that ſimple concords.

As to the compoſition and relations of original concords, by applying to them the rules of addition and ſubtraction of intervals, they will be divided into ſimple and compound, according to the firſt and and more general notion; as in the following table.

Simple concords.		Compound concords		Octave compoſed.
5 : 6 a 3d leſs.	5th.	3d gr. and 3d leſs.	of	5th. 4th. or 6th.
4 : 5 a 3d gr.	6th leſs.	4th and 3d leſs.		gr. 3d leſs, or
3 : 4 a 4th.	6th gr.	4th and 3d gr.		3d gr. 3d leſs.
				4th.

The octave is not only the firſt concord in point of perfection, the agreement of whoſe extremes is greateſt, and the neareſt to uniſon, ſo that when ſounded together, it is impoſſible to perceive two different ſounds; but it is likewiſe the greateſt interval of the ſeven original concords, and, as ſuch, contains all the leſſer, which derive their ſweetneſs from it, as they more or leſs directly riſe out of it, and which gradually decreaſe from the octave to the leſſer ſixth, having but a ſmall degree of concord.

The manner in which theſe concords are found in the octave, ſhews their mutual dependencies: for taking an harmonical and arithmetical mean between each extreme and the moſt diſtant of the two means laſt found; to wit, betwixt the leſſer extreme and the firſt arithmetical mean, and betwixt the greater extreme and the firſt harmonical mean, we have the leſſer concords. Thus, if betwixt 360 and 180, the extremes of the octave, you take an arithmetical mean, it is 270, and an harmonical mean is 240. Then betwixt 360, the greateſt extreme, and 240, the harmonical mean, take an arithmetical mean, it is 300; and an harmonical mean is 288. Again, between 180, the leſſer extreme of the octave, and 270, the firſt arithmetical mean, it is 225, and an harmonical one 216.

Thus we have a ſeries of all the concords, both aſcending towards acuteneſs, from a common fundamental 360; and deſcending towards gravity, from a common acute term 180: which ſeries has this property, that taking the two extremes, and any other two at equal diſtances, the four will be in a geometrical proportion.

The octave, by immediate diviſion, becomes a fourth and fifth; the fifth, again, by immediate diviſion, produces the two thirds; the two thirds are therefore found by diviſion, tho' not immediately, and the ſame is true of the two ſixths. Thus all the original concords ariſe from the diviſion of the octave; the fifths and fourths immediately, the thirds and ſixths mediately. From the perfection of the octave, it may be doubled, tripled, *&c.* and yet preſerve a concord; that is, the ſum of two or more octaves is concord, tho' the more compound will be gradually leſs agreeable: but it is not ſo with any other concord leſs than an octave, the doubles, *&c.* whereof are all diſcords.

Again, whatever ſound is concord to one extreme of the octave, is concord to the other alſo; and, if you add any other ſimple concord to an octave, it agrees to both its extremes; to the neareſt, being a ſimple concord, and to the fartheſt a compound one.

The greateſt number of the vibrations of the fundamental, it is to be further obſerved, cannot exceed five, or there is no concord where the fundamental makes more than five vibrations to one coincidence of the acute term.

CONCORDANCE, a ſort of dictionary of the bible, explaining the words thereof in alphabetical order, with the ſeveral books, chapters

chapters, and verſes quoted; in which they are contained.

Cardinal Hugo, who lived in the thirteenth century, is ſaid to be the firſt author of thoſe concordances. Frithemius ſays, that, during the council of Baſil, John of Raguſa, and afterwards Walter the Scotſman, and laſt of all John of Segovia, finiſhed the work of concordances, and put them into the condition wherein we now ſee them finiſhed. We forbear to mention the concordances publiſhed in ſeveral languages, they being almoſt numberleſs.

CONCORDANT VERSES, are ſuch as have ſeveral words in common, but which, by the addition of other words, convey an oppoſite or at leaſt a very different meaning; as,

Et { *canis* / *lupus* } *in ſylva* { *venatur* / *nutritur* } *& omnia* { *ſervat.* / *vaſtat.* }

CONCORDAT, in the canon law, a covenant or agreement in ſome beneficiary matter, as relating to a reſignation, permutation, or other eccleſiaſtical cauſe.

This word is uſed, abſolutely, among the French for an agreement between pope Leo I. and Francis I. of France, for regulating the manner of nominating to benefices.

CONCORDAT GERMANIC, is that made between pope Nicholas V. and the emperor Frederic III. and the princes of Germany relating to beneficiary matters.

CONCORDAT alſo ſerves inſtead of the pragmatic ſanction, which had been abrogated; or rather it is the pragmatic ſanction, ſoftened and reformed.

CONCORDIA, in geography, a town of the dutchy of Mantua, in Italy, about fifteen miles ſouth eaſt of the city of Mantua: eaſt longitude 11° 20′, and north latitude 45°.

CONCOURSE, or CONCURRENCE, the reciprocal action of various perſons or things, co-operating towards the ſame effect.

Thus ſome hold that the concourſe, or concurrence of the ſun and ſtars, are neceſſary for the production of all ſublunary things; and moſt divines maintain, that the actions and operations of all creatures, are continually dependent on the immediate concurrence of the divine mind, who concurs to give ſecond cauſes their efficacy, which without his influence they are deſtitute of. See the article CAUSE.

Concurrence is, by ſchoolmen, diſtinguiſhed into two kinds, *viz.* mediate, which conſiſts in giving a power or faculty to act; and immediate, which is a contemporary influence of the cauſe, along with another, to produce an effect: thus the grandfather concurs mediately to the production of a grandſon, but the father concurs immediately with the mother, to the production of the ſame child.

Point of CONCOURSE. See FOCUS.

CONCRETE, in the ſchool-philoſophy, an aſſemblage or compound. See the article COMPOUND.

CONCRETE, in natural philoſophy and chemiſtry, ſignifies a body made up of different principles, or any mixed body: thus ſoap is a factitious concrete, or a body mixed together by art; and antimony is a natural concrete, or a mixed body, compounded in the bowels of the earth.

CONCRETE, in logic, is uſed in contradiſtinction to abſtract; for example, when we conſider any quality, as whiteneſs, inhering in any ſubject, as, ſuppoſe, in ſnow; if we may ſay the ſnow is white, then we ſpeak of whiteneſs in the concrete: but if we conſider whiteneſs by itſelf, as a quality that may be in paper, in ivory, and in other things, as well as in ſnow, we are then ſaid to conſider, or to take it in the abſtract. See the article ABSTRACT.

CONCRETE NUMBERS, are thoſe which are applied to expreſs or denote any particular ſubject, as two men, three pounds, two thirds of a ſhilling, *&c.* whereas if nothing be concreted with the number, it is taken abſtractly, or univerſally. Thus, three ſignifies an aggregate of three unites; let theſe unites be men, pounds, or whatever elſe you pleaſe.

CONCRETION, the uniting together ſeveral ſmall particles of a natural body into ſenſible maſſes, or concretes, whereby it becomes ſo and ſo figured and determined, and is indued with ſuch and ſuch properties. See CONCRETE.

CONCRETION is alſo the act whereby ſoft bodies are rendered hard; or an inſenſible motion of the particles of a fluid, or ſoft body, whereby they come to a conſiſtence. It is indifferently uſed for induration, condenſation, congelation, and coagulation.

CONCUBINAGE, denotes ſometimes a criminal or prohibited commerce between the ſexes; in which ſenſe it comprehends adultery, inceſt, and ſimple fornication: but, in a more limited ſenſe, it ſignifies the

the cohabitation of a man and a woman in the way of marriage, without having paſſed the ceremony thereof.

However concubinage might be diſpenſed with among the Jews, Turks, and Heathens; among Chriſtians, if polygamy be prohibited, this practice muſt be prohibited too; and yet it is obſervable, that the clergy in this kingdom, and other parts of Chriſtendom, who ſubmitted to the juriſdiction of the pope, were for ſome time indulged in keeping concubines, tho' they were abſolutely prohibited to marry; and when the clergy of England were reſtrained from both, by the 31ſt Henry VIII. c. 14. it was made much more penal to keep a wife than a concubine; for the former was felony, without benefit of clergy, when, by the latter, the prieſt only incurred the loſs of his goods and preferments.

CONCUBINAGE is alſo uſed for a marriage performed with leſs ceremony than is the uſual practice; or a marriage with a woman of inferior condition, to whom the huſband does not communicate his rank or quality.

The antient laws allowed a man to eſpouſe, under the denomination of concubines, certain perſons eſteemed inferior to him; which ſtate of the concubines, though beneath marriage, was yet accounted a reputable one: the commerce was eſteemed lawful, and the concubine might be puniſhed for adultery, in like manner as the wife. This kind of concubinage is ſtill practiſed in ſome countries, particularly in Germany, under the title of half marriage, by which the parties are bound for ever. See the article MARRIAGE.

CONCUBINE, a woman whom a man takes to cohabit with in the manner of a wife, without being authoriſed thereto by a legal marriage.

CONCUBINE is alſo uſed for a legitimate, and only wife. See CONCUBINAGE.

Among the Romans, inheritances deſcended to children ſprung from ſuch concubines. Concubines, among the Greeks, were uſually women taken captive, or bought with money, and were always inferior to lawful wives, whoſe dowery or parentage gave them the preheminence. It appears, that among the Jews, a concubine had not only oftentimes the ſame appellation, but, in the moſt important inſtances, was upon the ſame level with a wife: nor does there ſeem to be any difference made between the ſons of the wife and the concubine. The Turks ſtill make ſo little diſtinction between a wife and a concubine, that whoever firſt has a ſon, ſuch ſon is entitled to all privileges and advantages of an eldeſt ſon.

CONCUPISCENCE, according to divines, an irregular appetite, or luſt after carnal things, inherent in the nature of man ever ſince the fall.

Concupiſcence, according to Malebranche, is a natural effort made by the traces of the brain on the mind, in order to attach it to ſenſible things: the origin of concupiſcence he aſcribes to thoſe impreſſions made on the brain of our firſt parents at their fall, which are ſtill tranſplanted and continued to thoſe of their children; and he aſcribes the dominion or prevalence of concupiſcence to original ſin.

CONCURRENCE, or CONCOURSE. See the article CONCOURSE.

CONCURRING, or CONGRUENT FIGURES, in geometry, thoſe which being laid upon one another, exactly correſpond and cover each other, and therefore are equal.

COND, CON, or CONN, in the ſea-language, to guide or direct the ſhip to her right courſe, by giving directions to the man at the helm how to ſteer. See the article STEERING.

The man that cons the ſhip directs him at the helm in theſe terms: *ſtarboard, or port the helm*; that is, put the helm to the right or left of the ſhip, and then the ſhip will go to the larboard or ſtarboard; for the ſhip always ſails contrary to the helm. *Right the helm, or helm a midſhip*; that is, keep it right up, or in the midſhips, when it is required the ſhip ſhould go right before the wind. *Eaſe the helm, no near, bear up*; that is, let her fall to leeward, or ſail more large, or more before the wind. *Steady as you go*; that is, keep her upon the ſame point. *Keep thus! thus!* that is, let her go juſt as ſhe is. Other directions, much to the ſame purpoſe, importing chiefly to keep the ſhip near the wind, are, *aloof, keep your loof, fall not off, veer no more, keep her to, touch the wind, have a care of the lee latch.*

CONDE, a town of the french Netherlands, in the province of Hainault, ſituated on the river Scheld, about twelve miles weſt of Mons: eaſt long. 3° 40', and north lat. 50° 35'.

CONDECEDO, or *Cape* CONDECEDO, a pro-

promontory of north America, in the province of Jucatan, about 100 miles weſt of Merida: weſt long. 93°, and north lat. 21°.

CONDEMNATION, the act of giving judgment, paſſing or pronouncing ſentence againſt a perſon, ſubjected thereby to ſome penalty or puniſhment, either in reſpect of life, reputation, or fortune. See SENTENCE and PUNISHMENT.

CONDENSATION, the act whereby a body is rendered more denſe, compact, and heavy.

Hence condenſation ſtands oppoſed to dilatation, or rarefaction; which latter renders the body lighter and looſer, by ſetting the parts further aſunder; whereas the former brings them cloſer to each other, and increaſes their contact.

Condenſation is, by moſt writers, diſtinguiſhed from compreſſion, in regard the latter is performed by ſome external violence, whereas the former is the action of cold. See COLD and COMPRESSION.

There has been no body yet found, however denſe and compact, but cold renders ſtill denſer, not even excepting diamonds, the hardeſt of all known bodies; and as the degree of cold increaſes, this contraction is alſo increaſed: the former contraction ſtill decreaſing, as the cold is leſs. Water alone ſeems to expand by cold, inſomuch that, when congealed, the ice takes up more ſpace than the water did before: but this is attributed to the intromiſſion of ſome foreign matter, ſuch as the particles of the ambient air, rather than to any proper expanſion of the water, by the action of cold.

If air be condenſed upon water in a bottle, it will cauſe it to ſpout through the tube of communication to a very great height, *viz.* 30 feet, if only one atmoſphere be injected, 60 if two, and ſo on. A bladder that will ſuſtain the ſpring of common air, will be broke by condenſed air. See the next article.

CONDENSER, a pneumatic engine, or ſyringe, whereby an uncommon quantity of air may be crowded into a given ſpace; ſo that ſometimes ten atmoſpheres, or ten times as much air as there is at the ſame time, in the ſame ſpace, without the engine, may be thrown in by means of it, and its egreſs prevented by valves properly diſpoſed. See plate XLII. fig. 8.

It conſiſts of a braſs cylinder, wherein is a moveable piſton; which being drawn out, the air ruſhes into the cylinder thro' a hole provided on purpoſe; and when the piſton is again forced into the cylinder, the air is driven into the receiver through an orifice, furniſhed with a valve to hinder its getting out.

The receiver or veſſel containing the condenſed air, ſhould be made very ſtrong, to bear the force of the air's ſpring thus increaſed; for which reaſon they are generally made of braſs: its orifice is fitted with a female ſcrew to receive the male ſcrew at the end of the condenſer.

If glaſs be uſed for a condenſer, it will not ſuffer ſo great a degree of condenſation; but the experiment will be more entertaining, ſince the ſubject may be viewed in the condenſed air.

CONDERS, a term uſed in the herring fiſhery, for people who ſtand on cliffs or eminences near the ſea-coaſt, to direct the fiſhermen which way the ſhoal of herrings paſſes; their courſe being more conſpicuous to thoſe who ſtand on high cliffs aſhore, than to them on board the veſſels.

CONDITION, in the civil law, a clauſe of obligation ſtipulated as an article of a treaty or contract; or in a donation of teſtament, legacy, &c. in which laſt caſe a donee does not loſe his donative, if it be charged with any diſhoneſt or impoſſible conditions.

The conditions under which a donation can be made, are diſtinguiſhed into three kinds, 1. The caſual, which depends merely on chance. 2. The poteſtative, which is abſolutely in our power; and, 3. The mixed condition, which is compounded of the other two.

CONDITION, in common law, a reſtriction annexed to an act, qualifying or ſuſpending the ſame, in rendering its effect precarious and uncertain.

There are various kinds of conditions, *viz.* condition in deed, condition precedent and ſubſequent, condition in law, &c.

CONDITION *in deed*, the bridle annexed to a feofment, leaſe, or grant, either in writing or without.

CONDITION *precedent* gains the thing, or eſtate made upon condition, by the performance of it.

CONDITION *ſubſequent* keeps and continues the thing, made upon condition, by the performance of it.

CONDITION *in law*, or CONDITION *implied*, is when a perſon grants an office to another, as keeper of a park for life; tho' there be no condition expreſſed in the grant, yet the law makes one covertly, which is, that if the grantee does not ex-

execute all things belonging to his office, it ſhall be lawful for the granter to diſcharge him.

CONDITIONAL, ſomething not abſolute but ſubject to conditions. See the preceding article.

Conditional legacies are not due till the conditions are accompliſhed.

CONDITIONAL CONJUNCTIONS, in grammar, are thoſe which ſerve to make propoſitions conditional. As, *if*, *unleſs*, *provided*, &c.

CONDITIONAL PROPOSITIONS, in logic, ſuch as conſiſt of two parts connected together by a conditional particle.

CONDITIONAL SYLLOGISM, a ſyllogiſm where the major is a conditional propoſition. Thus,

If there is a God, he ought to be worſhipped.
But there is a God;
Therefore he ought to be worſhipped.

The arminian divines maintain, that all the decrees of God relating to the ſalvation and damnation of man, are truly conditional; and the calviniſts, that they are abſolute.

Science of conditionals, that is, of conditional truths, is the knowledge which God has of things conſidered not according to their eſſence, their nature, or their real exiſtence, but under a certain ſuppoſition which imports a condition never to be accompliſhed.

CONDOM, the capital of the Condomois, in the province of Gaſcony, in France, about ſixty miles ſouth-eaſt of Bourdeaux. It is a biſhop's ſee, ſituated in 20′ eaſt longitude, and 44° 5′ north latitude.

CONDORE or PULO CONDORE, a little iſland in the indian ocean, about ſixty miles ſouth of Cochin China: eaſt longitude 106° 30′, and north lat. 9° 30′.

CONDORMIENTES, in church hiſtory, religious ſectaries, who hold their name from lying altogether, men and women, young and old. They aroſe in the thirteenth century near Cologne, where they are ſaid to have worſhiped an image of Lucifer, and to have received anſwers and oracles from him.

Another ſpecies of condormientes, were a branch of anabaptiſts in the ſixteenth century; ſo called, becauſe they lay ſeveral of both ſexes in the ſame chamber on pretence of evangelical charity.

CONDUCT, or *ſafe* CONDUCT, a deed or ſecurity granted to an enemy, under the great ſeal of a prince, that he may paſs and repaſs without being moleſted.

CONDUCTOR, in ſurgery, an inſtrument which ſerves to conduct the knife in the operation of cutting for the ſtone, and in laying open ſinuſes and fiſtulas. It is alſo called a gorget. See the article STONE.

CONDUCTORS, in military affairs, are aſſiſtants given to the commiſſary of the ſtores to receive or deliver out ſtores to the army, to attend at the magazines by turns when in garriſon, and to look after the ammunition waggons in the field. They bring their accounts every night to the commiſſary, and are immediately under his command.

CONDUCTOS AD PROFICISCENDUM, See CAPIAS CONDUCTOS, &c.

CONDUIT, a canal or pipe for the conveyance of water, or other fluid.

There are ſeveral ſubterraneous conduits through which the waters paſs that form ſprings. Artificial conduits for water are made of lead, ſtone, caſt-iron, potters earth, timber, &c. See PIPE.

Conduits for conveying away the ſuillage of a houſe, Sir H. Wotton ſays, ſhould be placed in the moſt remote and loweſt part of the foundation, with ſecret vents paſſing up through the wall like a funnel, to the wide air, which all italian artiſts commend for the diſcharge of noiſome vapours.

CONDYLOMA, or CONDYLUS, in anatomy. See the article CONDYLUS.

CONDYLOMA, in medicine, a tubercle or callous eminence which ariſes in the folds of the anus, or rather a ſwelling or hardning of the wrinkles of that part.

Condylomata proceed from a redundant and vitiated blood ſtagnating in the hæmorrhoidal veſſels, and are often the effect of venereal ailments. Their cure depends on mercurial unctions, and proper eſcharotics to conſume them; though extirpation either by ligature or inciſion, if the nature of the part will admit, is the moſt expeditious. It very often happens that a ſalivation is neceſſary, in order to facilitate and complete the cure.

CONDYLUS, a name given by anatomiſts to a knot in any of the joints formed by the epiphyſis of a bone. In the fingers it is called a knuckle.

CONDYLUS, in botany, ſignifies the joints of plants.

CONE, in geometry, a ſolid figure, having a circle for its baſe, and its top terminated in a point or vertex.

A cone may be conceived to be generated in the following manner. Take an immoveable point A (plate XLIX. fig. 5. N°. 1.)

N°. 1.) elevated above the plane of a circle BCDE, and fuppofe a ftraight line XZ drawn through the point and extended both ways from it to an indefinite length, to be carried quite round the circle, all the while touching its circumference, and continuing ftill fixed to the immoveable point; the line by this motion will defcribe two conic furfaces, which are vertical or oppofite, having their common vertex at the immoveable point.

The folid contained within this conic furface, between the immoveable point A and the circumference of the circle BCDE, is a cone: the immoveable point A is the vertex, the circle BCDE is the bafe: and a ftraight line AF drawn from the vertex to the center of the bafe, is the axis of the cone: all ftraight lines drawn from the vertex to the circumference of the bafe, as AB, AC, AD, AE, &c. are fides of the cone. If the axis of a cone be perpendicular to its bafe, it is called a right cone, as in N°. 2. if the axis be inclined to the bafe, it is called a fcalinous or oblique cone, fuch as that in n°. 3, and a right cone is always underftood, when the contrary is not expreffed.

Euclid, in his eleventh book, gives a definition of a cone that is not general, it being only of a right cone; for he fays, a cone is produced by the revolution of the plane of a right angled triangle, about the perpendicular leg remaining at reft. If this leg or axis be greater than half the bafe, the folid produced is an acute angled cone; if lefs, it is an obtufe angled cone; and if equal, a right angled cone. Thus the cone BAC (*ibid.* n°. 4.) is lefs acute than the cone BDC, becaufe the angle BDF, is lefs than the angle BAF.

Properties of the CONE. 1. Cones and pyramids having the fame bafes and altitudes are equal to each other. It is fhewn, that every triangular prifm may be divided into three equal pyramids, and therefore that a triangular pyramid is one third of a prifm ftanding on the fame bafe, and having the fame altitude. Hence, fince every multangular body may be refolved into triangular ones, every pyramid is the third part of a prifm, ftanding upon the fame bafe, and having the fame altitude; and as a cone may be efteemed an infinite angular pyramid, and a cylinder an infinite angular prifm, a cone is a third part of a cylinder which has the fame bafe and altitude. Hence we have a method of meafuring the folidity and furface of a cone and pyramid. Thus, find the folidity of a prifm or cylinder, having the fame bafe with the cone or pyramid, which found divide by 3, the quotient will be the folidity of the cone or pyramid. Or the folidity of any cone is equal to the area of the bafe multiplied into one third part of its altitude. As for the furfaces, that of a right cone, not taking in the bafe, is equal to a triangle whofe bafe is the periphery and altitude the fide of the cone; therefore the furface of a right cone is had by multiplying the periphery of the bafe into half of the fide, and adding the product to that of the bafe.

2. The altitudes of fimilar cones are as the radii of the bafes, and the axes likewife are as the radii of the bafes, and form the fame angle with them. 3. Cones are to one another in a ratio compounded of their bafes and altitudes. 4. Similar cones are in a triplicate ratio of their homologous fides, and likewife of their altitudes. 5. Of all cones ftanding upon the fame bafe, and having the fame altitude, the fuperficies of that which is moft oblique is the greateft, and fo the fuperficies of the right cone is the leaft; but the proportion of the fuperficies of an oblique cone to that of a right one, or which is the fame thing, the comparifon thereof to a circle, or the conic fections, has not yet been determined.

To meafure the furface and folidity of a truncated CONE ABCD, (*ibid*, n°. 5.) *the altitude* CH *and the diameters of its bafes being given*. The diameters of the bafes AB and CD being known, find their circumferences. To the fquare of the altitude CH, add the fquare of the fame difference of the radii AH, and from the aggregate extract the fquare root, which will give the fide AC, and the femi fum of the peripheries, multiplied by the fide AC gives the fuperficies of the truncated cone.

For the folidity, fay, As the difference of the femidiameters, AH, is to the altitude of the truncated cone, CH, fo is the greater femidiameter, AF, to the altitude of the intire cone, FE. This being found, fubtract the altitude of the truncated cone GF, which will leave that of the cone taken off, GE. Find the folidity of the cones CED and AEB; fubtract the former

former from the latter, and the remainder will be the folidity of the truncated cone ACDB.

For the fections of the cone, fee the article CONIC SECTION.

Center of gravity and ofcillation of a cone. See the article CENTER.

CONES of the higher kinds, thofe whofe bafes and fections parallel to the bafes, are circles of the higher kinds. They are generated by fuppofing a right line fixed in a point, on high, but conceived to be capable of being extended more or lefs on occafion, and moved round the periphery of a circle. See the article CIRCLE.

CONE of rays, in optics, includes all the feveral rays which fall from any radiant point on the furface of a glafs. See the article RAY.

CONE and KEY, among the antient Saxons, was when a woman at the age of 14 or 15, took upon her the charge of her houfe, and received cone and key; fhe being then held of competent years to keep the accounts and keys of the houfe.

CONESSI, a fort of bark of a tree which grows on the Cormandel-coaft, in the Eaft-Indies. It is recommended in a letter to Mr. Monro, in the Medical Effays, as a fpecific in diarrhœas. It is to be pounded into a fine powder, and made into an electuary with fyrup of oranges; and the bark fhould be frefh, and the electuary new made every day, or fecond day, otherwife it lofes its auftere but grateful bitternefs on the palate, and its proper effects on the inteftines.

CONFARREATION, in antiquity, a ceremony obferved by the Romans in certain nuptial folemnities. Ulpian fays, it confifted in the offering up fome pure wheaten bread, rehearfing at the fame time a certain formula, in prefence of ten witneffes. According to Servius, the Pontifex Maximus and Flamen Dialis, joined the man and woman by making them eat of the fame cake of falted bread. Confarreation was the moft facred of the three manners of contracting marriage among the Romans.

CONFECTION, in pharmacy, fignifies in general any thing prepared with fugar: in particular it imports fomething preferved, efpecially dry fubftances.

CONFECTION alfo fignifies a liquid or foft electuary, of which there are various forts directed in difpenfatories, but thofe ordered in the London Difpenfatory are the following. 1. The confection of Hamech, the ingredients of which are polypody, myrobalans, agaric, fenna, tamarinds, red rofes, manna, colocynth. It is applied as a draftic in purging the groffer humours and vifcidities. 2. The cordial confection, which is a fubftitute for the operofe confectio raleighana, compofed of a tincture drawn with proof fpirit from the leffer cardamom feeds, zedoary and faffron, frefh rofemary tops, and juniper berries, to which is afterwards added the compound powder of crab's claws, cinnamon, nutmeg, cloves and double refined fugar. 3. The confection, called paulina, confifts of coftus, cinnamon, long pepper, black pepper, ftrained ftorax, ftrained galbanum, ftrained opium. Ruffia-caftor. 4. Confectio Damocratis. See MITHRIDATE. 5. Confectio Fracaftorii. See the article DIASCORDIUM. 6. Confectio Alkermes. See ALKERMES.

CONFECTOR, in roman antiquity, a fort of gladiator hired to fight in the amphitheatre againft beafts, thence alfo denominated beftiarius.

According to fome, the confector did not fight with beafts like the beftiarius, but was fent on purpofe to difpatch them whenever they became fo wild (which was often the cafe) as to threaten the lives of the fpectators.

CONFECTS, a denomination given to fruits, flowers, herbs, roots, &c. when boiled and prepared with fugar or honey, to difpofe them to keep, and render them more agreeable to the tafte. Solid faccharine fimple confects, are prepared after the following manner. The fugar being firft well clarified with pure water and the white of an egg, is boiled to a confiftence a little thicker than that of a fyrup. Then the thing which is to be preferved is put into a large copper veffel, flat bottom, placed upon a gentle fire; and when it is moderately heated, together with its contents, the artift fprinkles fome of the liquid fugar, before prepared, fomewhat warm upon the things in the veffel, juft enough to moiften them, and immediately ftirs them to and fro, fhakes them, and toffes the veffel in fuch a manner as to prevent the feeds, or whatever elfe it may be, from cluftering together. Then they are to be totally dried by a gentle coal fire under the veffel. After this, as much diffolved fugar is to be added to the thing as is fufficient to moiften it moderately, and continuing the agitation, &c. it is to be dried. This operation is to be repeated, moiftening and drying the

the materials by turns, till they are sufficiently covered with sugar. Confectioners, however, prepare things with greater ease, and in order to be able to sell them at a lower rate, they add starch to the dissolved sugar, by which means they not only dry them sooner, but also render them sufficiently large at a small expence. To make confects red, infuse some red saunders in the water, or cochineal, or syrup of mulberries. If you would have them green, boil the juice of spinage with the sugar; if yellow, put saffron in the water you mix with the sugar.

Confects are reduced to eight kinds, *viz.* 1. Dry confects. 2. Sugar-plums. 3. Liquid confects, those whose fruits, either whole, in pieces, in seeds, or in clusters, are connected in a fluid, transparent syrup, which takes its colour from that of the fruits boiled in it. 4. Marmalades. 5. Jellies. 6. Pastes. 7. Conserves. 8. Candies. See the articles MARMALADE, PASTE, *&c.*

CONFEDERACY, in a general sense, a league or alliance between several princes and states, to carry on a common cause.

CONFEDERACY, in law, is when two or more combine together, to do some damage or injury to another, or to commit some unlawful action.

Confederacy is punishable if nothing be put in execution; but this must be declared by some matter of prosecution, as entering into bonds or promises the one to the other: the confederacy must also be malicious, and against an innocent person.

CONFERVA, in botany, a genus of water-plants, of the cryptogamia class, and order of mosses; consisting of oblong, capillary filaments, divided into joints of a globular figure.

CONFESSION, in a legal sense, an acknowledgment of some truth, though in prejudice of the person that makes the declaration. A confession, according to law, must never be divided, but always taken intire: nor must a criminal be condemned upon his own single confession, without other concurring proofs. A person is not admitted to accuse himself, whence a voluntary extrajudicial confession is never allowed of as any proof.

CONFESSION, among divines, the verbal acknowledgment which a christian makes of his sins.

Among the Jews, it was a custom, on the annual feast of expiation, for the high priest to make confession of sins to God in the name of the whole people: besides this general confession, the Jews were enjoined, if their sins were a breach of the first table of the law, to make confession of them to God: but violations offered the second table were to be acknowledged to their brethren. The confessions of the primitive christians were all voluntary, and not imposed on them by any laws of the church; yet private confession was not only allowed, but encouraged.

The romish church requires confession, not only as a duty, but has advanced it to the dignity of a sacrament: this confession is made to the priest, and is private and auricular; and the priest is not to reveal them under pain of the highest punishment.

CONFESSION *of faith*, a list of the several articles of belief in any church, as the Augsburg confession is that of the lutheran church.

CONFESSIONAL, or CONFESSIONARY, a place in churches, under the great altar, where the bodies of deceased saints, martyrs and confessors, were deposited. This word is also used by the romanists for a desk in the church where the confessor takes the confessions of the penitents.

CONFESSO, or PRO-CONFESSO. See the article PRO-CONFESSO.

CONFESSOR, in the romish church, a priest who is impowered to receive the confession of penitents, and to give them absolution. See CONFESSION.

In the primitive times, those christians, in general, who had suffered for the sake of their religion, and, in particular, those who had made a public confession of their faith before the heathen magistrates, were honoured with the name of confessors.

CONFIGURATION, the outward figure which bounds bodies, and gives them their external appearance; being that which, in great measure, constitutes the specific difference between bodies.

CONFIGURATION *of the planets*, in astrology, a certain situation of the planets in the zodiac, whereby they are supposed to aid or oppose each other.

CONFIRMATION, in a general sense, the act of ratifying or rendering a title, claim, report, or the like, more sure and indisputable.

CONFIRMATION, in law, a conveyance of an estate, or right in *esse*, from one man

to

to another, whereby a voidable eftate is made fure and unavoidable, or a particular eftate is increafed, or a poffeffion made perfect.

It is alfo the ftrengthening of an eftate formerly made, which is avoidable, though not prefently void: as if a bifhop was to grant his chancellorfhip by patent, for term of the patentee's life; this is no void grant, but voidable by the bifhop's death, except it be ftrengthened by the confirmation of the dean and chapter.

CONFIRMATION, in rhetoric, the third part of an oration, wherein the orator undertakes to prove the truth of the propofition advanced in his narration; and is either direct or indirect.

Direct, confirms what he has to urge for ftrengthening his own caufe. Indirect, properly called confutation, tends to refute the arguments of his adverfaries.

CONFIRMATION, in theology, the ceremony of laying on of hands, for the conveyance of the holy ghoft.

The antiquity of this ceremony is, by all antient writers, carried as high as the apoftles, and founded upon their example and practice. In the primitive church, it ufed to be given to chriftians immediately after baptifm, if the bifhop happened to be prefent at the folemnity. Among the Greeks, and throughout the Eaft, it ftill accompanies baptifm: but the romanifts make it a diftinct and independent facrament. Seven years is the ftated time for confirmation: however, they are fometimes confirmed before, and fometimes after that age. The perfon to be confirmed has a god-father and god-mother appointed him, as in baptifm. The order of confirmation in the church of England, does not determine the precife age of the perfons to be confirmed.

CONFISCATION, in law, the adjudication of goods or effects to the public treafury, as the bodies and effects of criminals, traitors, &c. Merchandizes that are prohibited, or brought aboard, or afhore, without paying the duties when feized, are confifcated.

He who is condemned to lofe his life, muft alfo lofe his goods: yet the widows of criminals do not lofe their dowries, nor their fhare in the goods of the community, by the forfeiture of their hufbands. The title to goods, which are not claimed by any other, is given by law to the king.

CONFLAGRATION, the general burning of a city, or other confiderable place. This word is commonly applied to that grand period or cataftrophe of our world, when the face of nature is to be changed by a deluge of fire, as formerly it was by that of water.

The fentiments of authors are various in regard to the caufe whence the conflagration is to rife, and the effects it is to produce. Divines will have it take its rife from a miracle, as a fire from heaven; but philofophers contend for its being produced from natural caufes: fome think an eruption of the central fire fufficient for the purpofe; others look for the caufe in the atmofphere. The aftrologers account for it from a conjunction of all the planets in the fign Cancer, as they fay the deluge was occafioned by the conjunction in Capricorn: but others affure themfelves that the world is to undergo its conflagration from the near approach of a comet in its return from the fun; as thefe huge bodies, by the intenfity of their heat, and their wandering tranfverfe motion acrofs the earth's orbit, threaten to produce the moft fignal changes and revolutions in the fyftem of things. See the article COMET.

CONFLUENCE, or CONFLUX, among geographers, the place where two rivers unite their ftreams. See RIVER.

CONFLUENT, among phyficians, &c. an appellation given to that kind of fmall-pox wherein the puftules run into each other. See the article POX.

CONFORMATION, the particular confiftence and texture of the parts of any body, and their difpofition to compofe a whole.

CONFORMATION, in medicine, that make and conftruction of the human body, which is peculiar to every individual.

Hence thofe difeafes called *morbi malæ conformationis*, or organical difeafes, are thofe which depend upon the bad conformation of the parts. Thefe, if external, may admit of chirurgical cure; and proper exercife, regimen, and medicine, may fometimes contribute much to the relief even of thofe which are internal, or, at leaft, may render them fupportable.

CONFORMITY, among fchoolmen, the relation of agreement between one thing and another; as that between any thing and the divifion thereof, the object and the underftanding, &c.

CONFRONTATION, the confronting or bringing two or more perfons in prefence of each other, in order to difcover the truth

truth of fome fact, whereof they give different accounts.

CONFUSION, in a general fenfe, is when things prior in nature do not precede, or pofterior do not follow: or a perturbation of order.

CONFUSION, in phyfic, a diforder of the eyes, that happens when, upon a rupture of the internal membranes which include the humours, they are all confounded together.

CONFUTATION, in rhetoric, making a branch of confirmation, is that part of an oration wherein the orator feconds his own arguments, and deftroys thofe produced by his antagonift. See the article CONFIRMATION.

CONGE', in the french law, a permiffion granted by a fuperior to an inferior, freeing him from fome duty with which, before, he was obliged to conform.

CONGE' *d'lire*, in ecclefiaftical polity, the king's permiffion royal to a dean and chapter in the time of a vacancy, to choofe a bifhop; or to an abbey, or priory, of his own foundation, to choofe their abbot or prior.

The king of England, as fovereign patron of all archbifhoprics, bifhoprics, and other ecclefiaftical benefices, had of antient time free appointment of all ecclefiaftical dignities, whenfoever they chanced to be void; inverting them firft *per baculum & annulum*, and afterwards by his letters-patent; and in courfe of time he made the election over to others, under certain forms and limitations, as that they fhould, at every vacation, before they choofe, demand the king's congé d'elire, and after the election, crave his royal affent, *&c.*

CONGE', in architecture, a mould in form of a quarter round, or a cavetto, which ferves to feparate two members from one another, fuch as that which joins the fhaft of the column to the cincture, called alfo apophyge.

CONGES are alfo rings or ferrels formerly ufed in the extremities of wooden pillars, to keep them from fplitting, afterwards imitated in ftone-work.

CONGELATION, freezing, or fuch a change produced by cold in a fluid body, that it quits its former ftate, and becomes congealed.

We muft obferve, that the word congelation is only applied to homogeneous fluids, fuch as water, oils, or pingous fubftances, and fufed metals, in which, befides a concretion in the cold air, no change is obferved. We muft alfo obferve that, by congelation, fome bodies, fuch as water, are rarified and expanded: whereas others are condenfed, or rendered more compact, fuch as fixed metals, and pingous bodies. In the fhops, the condenfation of any liquor in a cold place, is alfo called congelation. The ftones produced in fome caverns, from the drops of petrifying water, are alfo called congelations: for one method in which nature forms ftones, is by fuch a congelation as does not fuffer any thing of an earthly nature to be feparated, or precipitated from the whole mafs, either fpontaneoufly, or by the action of fire; but produces an uniform drinefs and induration of the whole mafs.

CONGER, in zoology, the name of a fpecies of muræna, with the upper edge of the back-fin black, called in englifh the fea-eel. See the article MURÆNA.

The conger refembles the common eel, but is much larger, being frequently met with five or fix feet long, and of the thicknefs of a man's thigh. Some give it the name of congrus, and others that of gryllus.

CONGERIES, a collection or aggregate of feveral particles, or bodies united into one mafs.

CONGESTION, in medicine, a collection of humours, formed gradually; whereby it differs from defluxion, which is made on a fudden. See the article DEFLUXION.

CONGIARY, *congiarium*, in roman antiquity, a kind of donative of wine or oil, beftowed on that people by their emperors, and fo called from the congius, wherewith it was meafured out to them. Sometimes, indeed, the congiary was made in money or corn; and the medals ftruck on fuch occafions, are known by the fame name.

CONGIUS, a liquid meafure of the antient Romans, containing the eighth part of the amphora, or the fourth of the urna, or fix fextarii. The congius in englifh meafure contains 207,0676 folid inches; that is, feven pints, 4,942 folid inches.

CONGLOBATE GLAND, in anatomy, a little fmooth body, wrapt up in a fine fkin, by which it is feparated from all other parts, only admitting an artery and a nerve to pafs in, and giving way to a vein and excretory canal to come out, of which fort are the glands of the brain and teftes,

Winslow includes under the name of conglobate glands, the lymphatic glands alone, and calls all the other glands of the body by the name conglomerate. See the next article.

CONGLOMERATE GLAND, that which is composed of several little conglobate glands, all tied up together in one common tunicle or membrane. Sometimes all their excretory ducts unite, and make one common pipe, through which the liquor of them all runs, as the pancreas and parotides do. Sometimes the ducts uniting, form several pipes, which only communicate with one another by cross canals; and such are the mammæ: others again have several pipes without any communication with one another; of which sort are the glandulæ lachrymales, and prostatæ: and a fourth sort, is when each little gland has its own excretory duct, through which it transmits its liquor to a common bason, as the kidnies.

CONGLUTINATION, the gluing or fastening any two bodies together by the intromission of a third, whose parts are unctuous and tenacious, in the nature of glue. See the article GLUE.

Thus, in the animal œconomy, the parts of the body are said to be conglutinated by means of their natural moisture.

CONGO, a large country on the western coast of Africa, between 10° and 20′ east longitude, and between the equator and 18° south latitude; comprehending the countries of Loango, Angola, and Benguella. It is bounded by the kingdom of Benin on the north; by Mataman, a part of Caffraria, on the south; and by the Atlantic ocean, on the west; and is sometimes called the lower Guinea.

CONGREGATION, an assembly of several ecclesiastics united, so as to constitute one body; as an assembly of cardinals, in the constitutien of the pope's court, met for the dispatch of some particular business.

These assemblies, being sixteen in number, are distributed into several chambers, after the manner of our offices and courts: the first whereof is the pope's congregation, whose business it is to prepare the most difficult beneficiary matters to be afterwards debated in the consistory: the second is the congregation of the holy office, or the inquisition: the third is the congregation *de propaganda fide*: the fourth is the congregation for explaining the council of Trent: the fifth is the congregation of the index, deputed to examine into pernicious and heretical books: the sixth is the congregation of immunities, established to obviate the difficulties that arise in the judgments of such suits as are carried on against churchmen: the seventh is the congregation of bishops and regulars: the eighth is the congregation for the examination of bishops, &c.

CONGREGATION is also used for a company or society of religious, cantoned out of any order, so as to make a subdivision of the order itself; as the congregation of Cluny, &c. among the benedictines.

CONGREGATION is likewise used for assemblies of pious persons, in manner of fraternities.

CONGREGATION, in physics, is a term used by Dr. Grew for the lowest degree of mixtion; or that wherein the parts of the mixture do not adhere to each other, but only touch in a single point; that author being of opinion, that the particles of all fluids touch only in this manner: or that their cohesion amounts only to a congregation. See COHESION and FLUID.

CONGREGATIONALISTS, in church-history, a sect of protestants who reject all church-government, except that of a single congregation. In other matters, they agree with the presbyterians. See the article PRESBYTERIANS.

CONGRESS, in political affairs, an assembly of commissioners, envoys, deputies, &c. from several courts meeting to concert matters for their common good.

CONGRESS, in a judicial sense, the trial made by appointment of a judge, before surgeons and matrons, in order to prove whether or no a man be impotent, before sentence is passed for the dissolution of a marriage, solicited upon such a complaint.

The trial of virility by congress had its origin in France, from the assurance of a man, who, being hard pressed by his wife, demanded the congress in open court. The judge finding it could not be denied, as it was the surest evidence the case could admit of, it was granted him, and obtained afterwards as a branch of the french jurisprudence for upwards of a hundred years: but it was annulled by arret of parliament, as being found precarious; some having failed under the experiment, out of mere modesty and shame, which is found to have the same

effect

effect with actual impotency. Neither the civil nor canon law make any mention of this trial.

CONGRUITY, in the schools, a suitableness or relation of agreement between things. The system of congruity in matters of grace consists in this, that God who knows perfectly the nature of grace, and the dispositions of the will in all the circumstances that shall befall a man, gives graces with which, by virtue of their congruity with the will of man considered in those circumstances, man will always infallibly, but not necessarily, do what God would have him do.

CONGRUITY, in geometry, is applied to figures, lines, *&c.* which being laid upon each other, exactly agree in all their parts, as having the very same dimensions.

CONGRUITY, among naturalists, a property relative to a fluid body, whereby any part of it is readily united with any other part, either of itself, or of any other similar fluid, or solid body. And incongruity is a property by which it is hindered from uniting with the solid or fluid body dissimilar to it. Thus quicksilver will stick to gold, silver, lead, tin, *&c.* and unite with them, but will roll off from wood, stone, glass, *&c.* and water, which will wet salt and dissolve it, will slip off from tallow without adhering to it, as also from a dusty surface, and from the feathers of water fowls.

CONI, a strong town of Piedmont, in Italy, situated upon the river Stura, thirty-two miles south of Turin, in 7° 30′ east long. and 44° 25′ north lat.

Coni was besieged by the French in 1744, but they were obliged to raise the siege on account of the great numbers of troops they lost in the attacks, and by the badness of the season.

CONIC-SECTIONS, curves formed from the section of a cone by a plane.

The curves that generally pass under the name of conic sections are three, *viz.* the ellipsis, parabola, and hyperbola; for tho' the triangle and circle are formed from the section of a cone, yet they are not usually considered in that capacity.

If a right cone be cut directly through its axis, the plane or superficies of that section will be a plain isosceles triangle as HVG, (plate XLIX. fig. 6. n°. 1.) to wit, HV, and VG, the sides of the cone will be the sides of the triangle, HG the diameter of the cone's base will be the base of the triangle, and its axis VC will be the perpendicular height of the triangle. See the article TRIANGLE.

If a right cone be cut any where off by a right line parallel to its base, the plane of that section will be a circle, because the base of the cone is a circle. Such is *hg, ibid.* See the article CIRCLE.

If a right cone be any where cut by a right line that cuts both its sides, but not parallel to its base as TS (*ibid.* n°. 2.) the plane of that section will be an ellipsis, commonly called an oval; that is, an oblong or imperfect circle, having several diameters, and two particular centers. See ELLIPSIS and DIAMETER.

If any cone be cut into two parts by a right line parallel to one of its sides, as SA (*ibid.* n°. 3.) the plane of that section, namely, S*b*BAB*b*, is called a parabola. See the article PARABOLA.

If a cone be any where cut by a right line either parallel to its axis, as SA (*ibid.* n°. 4.) or otherwise, as *x*N, in such a manner that the intersecting line when continued through one side of the cone, as at S or *x*, will meet with the other side of the cone if it be continued beyond the vertex V, as at T, then is the plane of that section, namely, S*b*BAB*b* called an hyperbola. See HYPERBOLA.

These five sections, namely, the triangle, circle, ellipsis, parabola, and hyperbola, are all the planes that can possibly be produced from a cone. But of them the three last, as we said above, are only called conic sections, both by antient and modern geometers.

From the genesis of these sections, it may be observed how one section degenerates into another. For an ellipsis being that plane of any section of the cone which is between the circle and parabola, it will be easy to conceive that there may be great variety of ellipsis produced from the same cone; and when the section comes to be exactly parallel to one side of the cone, then the ellipsis degenerates into a parabola. Now a parabola being that section whose plane is always exactly parallel to the side of the cone, cannot vary as the ellipsis may; for so soon as ever it begins to move out of that position of being parallel to the side of the cone, it degenerates either into an ellipsis or hyperbola. That is, if the section inclines towards the plane of the cone's base, it becomes an ellipsis; but if it incline towards the cone's vertex, it then becomes an hyperbola, which is the

plane of any section that falls between the parabola and the triangle: and therefore there may be as many varieties of hyperbolas produced from one and the same cone, as there may be ellipsis.

In short, a circle may change into an ellipsis, the ellipsis into a parabola, the parabola into an hyperbola, and the hyperbola into a plain isosceles triangle. And the center of the circle, which is its focus, divides itself into two focus's, so soon as ever the circle begins to degenerate into an ellipsis; but when the ellipsis changes into a parabola, one end of it flies open, one of its foci vanishes, and the remaining focus goes along with the parabola when it degenerates into an hyperbola. And when the hyperbola degenerates into a plain isosceles triangle, this focus becomes the vertical point of the triangle, namely, the vertex of the cone. So that the center of the cone's base may be truly said to pass gradually thro' all the sections until it arrive at the vertex of the cone, still carrying its latus rectum along with it. For the diameter of a circle being that right line which passes through its center or focus, and by which all other right lines drawn within the circle are regulated and valued, may be called the circle's latus rectum; and though it lose the name of diameter when the circle degenerates into an ellipsis, yet it retains the name of latus rectum with its first properties in all the sections, gradually shortening as the focus carries it along from one section to another, until at last both it and the focus become coincident, and terminate in the vertex of the cone. For the nature and properties of the ellipsis, parabola, and hyperbola, see each under its proper head.

The most celebrated treatises on conic sections, are those of Apollonius Pergæus, Mydorgius de Sectionibus Conicis, Gregory St. Vincent's Quadratura Circuli & Sectionum Coni, De la Hire's Opus de Sectionibus Conicis, De Witt's Elementa Curvarum, Dr. Wallis's Conic sections, De l'Hospital's analytical Treatise of conic sections and their use, Milne's Elementa Sectionum Conicarum nova methodo demonstrata, Mr. Simpson's and Mr. Muller's Conic sections, &c.

CONICHTHYODONTES, or PLECTRONITÆ, in natural history, one of the three names the fossile teeth of fishes are known by. Tho' authors assure us that these are the teeth of a fish, the jaws having been found with these bodies in them, yet they do not pretend to know to what fish they belong. They are generally of an oblong conic figure, broad at the base, and narrower at the point, where they are usually a little crooked: they are hollowed at the root, and are from the tenth of an inch to two inches long, commonly of a chesnut colour, and are found in the strata of clay, but most usually in those of stone; and seen more frequent in England, than in any other part of the world.

CONIFEROUS TREES, in gardening, such as bear hard, dry seed-vessels, of a conical figure, consisting of several woody parts, being mostly scaly, adhering closely together, and separating when ripe.

Of this sort is the cedar of Lebanon, fir, pine, &c.

CONINGSECK, the capital of a county of the same name in the circle of Swabia, in Germany, about twenty miles north of Constance: east long. 9° 23′, north lat. 47° 50′.

CONJOINT, or CONJUNCT, is applied, in the antient music, in the same sense as consonance. See CONSONANCE.

CONJOINT DEGREES, two notes which follow each other immediately in the order of the scale, as *ut* and *re*. See the article SCALE.

CONJOINT TETRACHORDS, two tetrachords, or fourths, where the same chord is the highest of one, and the lowest of the other. See the article CHORD.

CONISOR, or COGNISOR, in law, is used in the passing of fines for him that acknowledges the fine. See FINE.

He to whom the fine is acknowledged, is the cognizee.

CONISSALÆ, in natural history, a class of fossils, naturally and essentially compounded, not inflammable, nor soluble in water, found in detached masses, and formed of crystalline matter debased by earth.

Of this class there are two orders, and of each of these only one genus. Conissalæ of the first order, are found in form of a naturally regular and uniform powder, all the genuine particles of which are nearly of one determinate shape, appearing regularly concreted, and not fragments of others once larger. Conissalæ of the second order, are found in form of a rude, irregular, and shapeless powder, the particles of which are never

of

of any determinate particular figure, but ſeem broken fragments of ſome once larger maſſes.

To the former genus belong the different kinds of ſand; and to the latter, the ſaburræ, or gritts. See SABURRÆ and SAND.

CONISTERIUM, κονιστήριον, in grecian antiquity, a place within the area of the palæſtra, or gymnaſium, where the duſt, with which they beſpringled thoſe that had been anointed for wreſtling, was kept.

CONJUGATE DIAMETER, or *axis of an ellipſis*, the ſhorteſt of the two diameters, or that biſecting the tranſverſe axis. See the article AXIS.

CONJUGATE HYPERBOLA'S. If there be two oppoſite hyperbolas A M, *am*, plate XLIX. fig. 7. whoſe principal axis is the line A*a*, and conjugate axis the line B*b*; and if there be two other hyperbola's whoſe principal axis is the line B*b*, and conjugate one the line A*a*; then thoſe four hyperbola's are called conjugate hyperbola's: the two former oppoſite one's being conjugates to the latter. See AXIS, HYPERBOLA, and CONIC-SECTIONS.

CONJUGATION, in grammar, a regular diſtribution of the ſeveral inflexions of verbs in their different voices, moods, tenſes, numbers and perſons, ſo as to diſtinguiſh them from one another.

The Latins have four conjugations, diſtinguiſhed by the terminations of the infinitive āre, ēre, ĕre, and īre; the vowels before *re* of the infinitive in the firſt, ſecond, and fourth conjugations being long vowels, and that before *re* in the infinitive of the third being a ſhort one. See the article VOWEL.

The Engliſh have ſcarce any natural inflexions, deriving all their variations from additional particles, pronouns, *&c.* whence there is ſcarce any ſuch thing as ſtrict conjugations in that language. See the article MOOD.

The french grammarians reduce the number of conjugations in their language to that in the Latin, and theſe terminating in *er*, *re*, *ir*, and *oir*.

CONJUGATION, in anatomy, is applied to a pair of nerves ariſing together, and ſerving the ſame operation, ſenſation, and motion. See the article CONJOINT.

CONIUM, HEMLOCK, in botany, a genus of the pentandria-digynia claſs of plants, the flower whereof is compound; the particular ones conſiſting of five unequal and cordated petals: the fruit is roundiſh, ſtriated, and diviſible into two parts, containing two ſeeds, plain on the one ſide, and convex on the other.

This is the cicuta of other authors, or the common hemlock, which till very lately was rejected from all inward uſe in medicine, on account of its poiſonous qualities; but the extraordinary virtue and efficacy of this plant, uſed as well internally as externally, in the cure of cancers, ſchirrous and oedematous tumours, malignant and fiſtulous ulcers, and cataracts, are now brought into the higheſt reputation, from obſervations, made in a variety of caſes in which this remedy was adminiſtered, by Dr. Stork, the baron Van Swieten, Dr. Kollman, and others of the moſt eminent phyſicians and ſurgeons at Vienna.

CONJUNCT, or CONJOINT. See the article CONJOINT.

CONJUNCTION, in aſtronomy, the meeting of two ſtars or planets, in the ſame degree of the zodiac.

This conjunction is either true, or apparent. The true conjunction is when a right line, drawn from the eye through the center of one of the bodies, would paſs through that of the other: in this caſe the bodies are in the ſame degree of longitude and latitude: and here the conjunction is alſo ſaid to be central, if the ſame line, continued from the two centers through the eye, do alſo paſs through the center of the earth.

Apparent conjunction, is when the two bodies do not meet preciſely in the ſame point, but are joined with ſome latitude. In this caſe a right line, drawn through the center of the two bodies, would not paſs through the center of the earth, but through the eye of the ſpectator: this conjunction is alſo called partile.

The moon is in conjunction with the ſun, when they meet in the ſame point of the ecliptic, which happens every month; and eclipſes of the ſun are always occaſioned by the conjunction of the ſun and moon in or near the nodes of the ecliptic. See the article SYZYGY.

For the character of conjunction, ſee the article CHARACTER.

CONJUNCTION, in grammar, an undeclinable word, or particle, which ſerves to join words and ſentences together, and thereby ſhews their relation or dependence one upon another. The conjunction, which is uſually placed laſt in the eight parts of ſpeech, is of great

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ufe to render the difcourfe fmooth and fluent, and ferves many good purpofes in the argumentative or narrative ftile; but fhould ever be omitted where a perfon fpeaks with emotion, as only ferving to weaken and enervate it. Conjunctions are of feveral kinds.

Adverfative CONJUNCTIONS, fuch as are reftrictive, or expreffive of contrarieties; as, *but*, *neverthelefs*, *although*.

Caufal CONJUNCTIONS, fuch as exprefs that the reafon of fome thing is advanced; as, *for*, *becaufe*, *feeing*, *inafmuch as*.

Conclufive CONJUNCTIONS, fuch as fhew that a confequence is drawn; as, *of confequence*, *for which reafon*, *but then*, *fo that*.

Conditional CONJUNCTIONS, thofe that denote a condition; as, *on condition that*, *if*, *if not*, *in cafe of*, *provided that*.

Copulative CONJUNCTIONS, fuch as fhew a comparifon, or exprefs a relation of union between two things; as, *and*, *only*, *as much as*, *in the fame manner as*, *not only*, *inafmuch as*, *but alfo*, *neither more nor lefs*.

Continuative CONJUNCTIONS, fuch as denote a fucceffion or continuation of the difcourfe; as, *whatever it be*, *even in effect*.

Disjunctive CONJUNCTIONS, fuch as import a relation of feparation, or divifion; as, *neither*, *whether*, *or*.

Dubitative CONJUNCTIONS, fuch as exprefs fome doubt, or fufpenfion of opinion; as, *if*, *that is to fay*, &c.

CONJUNCTIVA, in anatomy, the fame with adnata. See ADNATA.

CONJURATI FRATRES, in law. See the article FRATRES CONJURATI.

CONJURATION, magic words, characters, or ceremonies, whereby evil fpirits, tempefts, &c. are fuppofed to be raifed, or driven away.

The romifh priefts pretend to expel devils, by preparing holy water in a particular manner, and fprinkling it over the poffeffed, with a number of conjurations and exorcifms. Some that pretend to diftinguifh conjuration from witchcraft, fay, that the former is the effect of prayers and invocation of God's name, &c. to compel the devil to do what is defired: whereas the latter attains its end by an immediate application to the devil himfelf, who is fuppofed always fo complaifant, from an agreement between them, as to do whatever is required.

CONN, or COND, in the fea-language, See the article COND.

CONNAUGHT, the moft wefterly province of Ireland.

CONNARUS, in botany, a genus of the monadelphia-decandria clafs of plants, the flower of which confifts of five fpear-fhaped erect equal petals; the fruit is a capfule formed of two valves, and containing one cell, wherein is lodged a fingle feed.

CONNECTICUT, a britifh colony of north America, bounded by the Maffachufet colony on the north-eaft; by the fea, on the fouth; and by New York, on the weft; being about 100 miles in length, and 80 in breadth.

This colony conftitutes a diftinct government, of a different form from that of New England.

CONNECTION, or CONNEXION, the relation whereby one thing adheres to, or depends upon, another. Such is the relation between Euclid's propofitions, that the latter cannot fubfift but by its connection with the former.

CONNECTION, or CONTINUITY, in the drama, confifts in the joining of the feveral fcenes together. See DRAMA.

The connection is faid to be obferved, when the fcenes of an act fucceed one another immediately, and are fo joined, as that the ftage is never left empty.

CONNIVENT VALVES, in anatomy, thofe wrinkles, cellules, and vafcules, which are found in the infide of the two great inteftines, the ileum and jejunum.

The inner tunic of the guts, being longer than the middle or the outward tunic, does frequently wrinkle, or bag out, in many places, by which means the paffage for the contents becomes ftraitened, and the matter through the guts then defcends more flowly, fo that the lacteals have the more time to imbibe the chyle.

CONNOISSEUR, a french word much ufed of late in englifh, to fignify a perfon well verfed in any thing: whence it is ufed for a critic, or a perfon who is a thorough judge of any fubject.

CONNOR, a city of Ireland, in the county of Antrim, and province of Ulfter, fituated about fix miles north of Antrim, in 6° 30′ weft longitude, and 54° 50′ north latitude.

CONOCARPUS, the BUTTON-TREE, in botany, a genus of the pentandria-monogynia clafs of plants, having no corolla, nor any pericarpium diftinct from the feed, which is naked and fingle, having on each fide a prominent, membranaceous margin.

 CONOID,

CONOID, in geometry, a folid body, generated by the revolution of a conic fection about its axis. See the article CONIC SECTIONS.

Elliptical CONOID, is a folid formed by the revolution of an ellipfis about one of its diameters, and more generally called a fpheroid. See the article SPHEROID.

Parabolical CONOID, is generated by the revolution of a parabola about its axis. See the article PARABOLA.

Hyperbolical CONOID, is generated by the revolution of an hyperbola about its axis. See the article HYPERBOLA.

CONOIDES, in anatomy, a gland found in the third ventricle of the brain called pinealis, from its refemblance to a pine-apple. Defcartes fixed the feat of the rational foul in this gland. See the article PINEAL GLAND.

CONQUERNA, a port-town of Britany, in France, forty miles fouth-eaft of Breft; weft long. 3° 50′, north lat. 47° 55′.

CONQUET, a port-town of Britany, in France, about eight miles weft of Breft; weft long. 4° 46′, north lat. 48° 26′.

CONSANGUINITY, the relation fubfifting between perfons of the fame blood, or who are fprung from the fame root. See the article KINDRED.

Confanguinity terminates in the fixth and feventh degree, excepting in the fucceffion of the crown, in which cafe it is continued to infinity.

Marriage is prohibited by the church to the fourth degree of confanguinity inclufive; but by the law of nature, confanguinity is no obftacle to marriage, except it be in the direct line.

The civilians call fratres confanguinei, thofe born of the fame father, in oppofition to fratres uterini, who are only born of the fame mother. It is the common opinion that the former was not allowed to complain of an inofficious teftament, that is, of being difinherited without caufe; excepting from the turpitude of the perfon, appointed heir in their place.

CONSCIENCE, in ethics, a fecret teftimony of the foul, whereby it gives its approbation to things that are naturally good, and condemns thofe that are evil. When it judges of an action to be performed, it is called in the fchools an antecedent confcience; and when it paffes fentence on an action which is performed, it is called a fubfequent confcience. When the mind is ignorant or uncertain about the moment of an action, or its tendency to good; or when there are feveral circumftances in the cafe, fome of which being doubtful, render the mind dubious concerning the morality of an action, this is called a doubtful or fcrupulous confcience; and if it miftakes concerning thefe, it is called an erroneous confcience. If the error or ignorance is involuntary or invincible, the action proceeding from that error, or from that ignorance, is reckoned innocent. But if they are the effect of negligence, or of affectation, the conduct flowing from fuch error is criminal. Not to follow one's confcience, though erroneous and ill-informed, Mr. Hutchefon likewife reckons criminal, as it is the guide of life, and to counteract it fhews an incorrigible fpirit; yet to follow an erroneous confcience is likewife criminal, if the error which mifled the confcience was the effect of inattention, or of any criminal paffion.

Some divines maintain that confcience is infallible, and hold it to be that immutable law by which God will judge men. They deny that the underftanding can be the fource of errors, and lay them all at the door of the will.

CONSCRIBED, a term ufed by fome geometricians for circumfcribed. See the article CIRCUMSCRIBED.

CONSCRIPT, *confcriptus*, in roman antiquity, an appellation given to the fenators of Rome, who were called confcript-fathers, on account of their names being entered all in one regifter.

CONSECRATION, the act of devoting any thing to the fervice and worfhip of God.

The mofaical law ordained, that all the firft-born, both of man and beaft, fhould be fanctified or confecrated to God. We find alfo, that Jofhua confecrated the Gibeonites, as Solomon and David did the Nethinims, to the fervice of the temple; and that the Hebrews fometimes confecrated their fields and cattle to the Lord, after which they were no longer in their power.

The New Teftament furnifhes us with inftances of confecration. Chriftians in general are confecrated to the Lord, and bifhops and other minifters of the gofpel are in a peculiar manner fet apart for his fervice.

Among the antient chriftians, the confecration of churches was performed with a great deal of pious folemnity. In what manner it was done for the three firft ages is uncertain, the authentic accounts reach-

reaching no higher than the fourth, when, in the peaceable reign of Conſtantine, churches were every where built and dedicated with great ſolemnity. Some think the conſecration conſiſted in ſetting up the ſign of the croſs, or in placing a communion-table in the church; and others, that no more was done than preaching a panegyrical ſermon in commemoration of the founder, and that then they proceeded to prayers, one of which was compoſed on purpoſe for the church to be conſecrated. The romaniſts have a great deal of pious foppery in the ceremonies of conſecration, which they beſtow on almoſt every thing, as bells, candles, books, water, oil, aſhes, palms, ſwords, banners, pictures, croſſes, agnus dei's, roſes, children's clouts, *&c.*

In England, churches have been always conſecrated with particular ceremonies, the form of which was left to the diſcretion of the biſhop. That obſerved by biſhop Laud, in conſecrating St. Catharine Creed church, in London, gave great offence.

CONSECRATION is particularly uſed for the benediction of the elements in the euchariſt. There is a great controverſy between the latin and greek churches, touching the words of conſecration: the romaniſts, following St. Thomas and the ſchoolmen, believe that the conſecration of the bread and wine conſiſts in theſe words, *This is my body, this is my blood.* The greeks, on the contrary, attribute the change of the elements to a certain prayer which they call the invocation of the Holy Ghoſt, rehearſed after theſe words, *this is my body*, &c.

CONSECRATION, among medaliſts, is the ceremony of the apotheoſis of an emperor, the proceſs of which ſee under the article APOTHEOSIS.

The conſecration on medals is repreſented thus: on one ſide is the emperor's head, crowned with laurel, and ſometimes veiled, and the inſcription gives him the title DIVVS; on the reverſe is a temple or altar, or an eagle taking flight toward heaven; and ſometimes the emperor is ſeen in the air, borne up by the eagle; the inſcription always CONSECRATIO.

CONSECTARY, a deduction, or conſequence, drawn from a preceding propoſition. Some rather chooſe to call it a conſequence, and others a corollary. See the article COROLLARY.

CONSECUTIVELY, in the ſchool-philoſophy, is ſometimes uſed in contradiſtinction to antecedently; and ſometimes to effectively, and cauſally.

Thus, ſay the ſchoolmen, the corruption of one thing is the generation of another, not effectively, but conſecutively; that is, ſince matter cannot, in the nature of things, be without form, the generation of one thing muſt neceſſarily follow the corruption of another.

CONSENT, in a general ſenſe, denotes much the ſame with aſſent. See the article ASSENT.

CONSENT *of parts*, in the animal œconomy, an agreement or ſympathy, whereby when one part is immediately affected, another, at a diſtance, becomes affected in the ſame manner.

It can hardly be imagined what a conſent there is between the brain and its membranes, between the ſtomach and the adjoining inteſtines; theſe being very nervous and endued with an exquiſite ſenſe: whence many ſtudents are troubled with a bad digeſtion, coſtiveneſs, and the hypochondriac paſſion.

The harmony and ſympathy of the nervous parts is of great uſe in phyſic, for without an accurate knowledge of this, many ſymptoms of diſeaſes can ſcarcely be explained.

It is to be obſerved, that the nervous membranaceous parts are, firſt, the membranes of the brain, and ſpiral marrow; then the nervous membranes which inveſt the organs of the ſenſes: to theſe may be added thoſe which cover the bones, head, teeth, joints, and muſcles. Likewiſe the œſophagus, ſtomach, and the whole volume of inteſtines, which is entirely nervous and membranaceous. The ſame conſent obtains alſo in the whole ſyſtem of the bilious and urinary ducts; the bladder, glands, and ſkin. In all theſe parts there is a wonderful connection, conſent, ſympathy, and communication of motions, as well as hurts, when they are affected by any violent cauſe: all which is owing to the nerves; for when they are moleſted, there ariſes a ſenſe of pain, and a ſtricture of the adjacent parts, eſpecially of the veſſels.

CONSEQUENCE, in logic, the concluſion, or what reſults from reaſon or argument. See CONCLUSION.

The conſequence is that other propoſition in which the extremes or premiſſes of a ſyllogiſm are joined or ſeparated; and is gained from what was aſſerted in the premiſſes.

This word, in a more reſtrained ſenſe, is uſed

used for the relation or connection between two propositions, whereof one is inferred from the other.

CONSEQUENT, something deduced or gathered from a former argumentation. But, in a more precise sense, it is used for the proposition which contains the conclusion, considered in itself, without any regard to the antecedent: in which sense the consequent may be true, though the consequence be false. See the preceding article.

CONSEQUENT *of a ratio*, in mathematics, the latter of the two terms of a ratio, or that to which the antecedent is compared; thus in $m:n$, or m to n, n is the consequent, and m the antecedent. See the articles RATIO and PROPORTION.

CONSEQUENTE, CONSEQUENZA, or CONSEGUENZA, in music, a part of a fugue or canon is said to be in consequente, when it follows the first part, called the guide, imitating its motions, notes and figures.

CONSERVATOR, an officer ordained for the security and preservation of the privileges of some cities and communities, having a commission to judge of, and determine the differences among them.

In most catholic universities there are two conservators, one whereof decides the differences between the regents, students, &c. and the other takes cognizance of spiritual matters between ecclesiastics: the former is called conservator of royal privileges, or those granted by kings; the latter is called the conservator of apostolical privileges, or those granted by the pope.

CONSERVATOR *of the peace*, in our antient customs, a person who had a special charge to keep the king's peace.

The chamberlain of Chester is still a conservator in that county; and petty constables are, by the common law, conservators, &c. of the king's peace.

CONSERVATOR *of the truce and safe conducts*, an officer formerly appointed by the king's letters patent, whose business it was to make enquiry of all offences committed against the king's truce and safe conducts upon the main seas out of the liberties of the cinqueports.

CONSERVATORY, a term sometimes used for a green-house, or ice-house. See the articles GREEN-HOUSE and ICE-HOUSE.

CONSERVE, in pharmacy, a form of medicine, contrived to preserve the flowers, herbs, roots, pills, or fruits, of several simples, as near as possible to what they are when fresh gathered.

All the things which come under this division are to be regarded pretty much as the syrups, more for the sake of mixing and rendering palatable other things of greater efficacy, than to answer any intention of cure, in regard there is so much sugar made use of in a conserve, that a dose of the simple, to answer any intention of moment, is rendered inconvenient to take.

Conserves are made by beating up the thing to be preserved, with sugar, *viz.* a a triple quantity thereof to those that are most moist, and a double quantity to those that are least so.

CONSIDERATION, in law, the material cause or ground of a contract, without which the party contracting would not be bound.

This consideration is either expressed, as where a person agrees to pay 5 l. for a house; or it is implied, when the law itself enforces a consideration, as in the case of a person's coming to an inn, and taking meat, drink, and lodging for himself and his horse; the law here presumes he intends to pay for them, though there is no express contract between him and the innkeeper: wherefore, if he do not discharge the house, the host may stop his horse.

CONSIGNMENT, in law, the depositing any sum of money, bills, papers, or commodities in good hands; either by appointment of a court of justice, in order to be delivered to the persons to whom they are adjudged; or voluntarily, in order to their being remitted to the persons they belong to, or sent to the places they are designed for.

CONSIGNMENT *of goods*, in commerce, is the delivering or making them over to another: thus, goods are said to be consigned to a factor, when they are sent to him, to be sold, &c. or when a factor sends back goods to his principal, they are said to be consigned to him.

CONSISTENCE, in physics, that state of a body wherein its component particles are so connected or entangled among themselves, as not to separate or recede from each other. It differs from continuity in this, that it implies a regard to motion or rest, which continuity does not, it being sufficient to denominate a thing continuous, that its parts are contiguous to each other. Consistence is generally used with

with regard to the thicknefs and thinnefs of medicines; and we may obferve, that not only the gratefulnefs, but alfo the operation of medicines depend, in fome meafure, upon their confiftence; for medicines of a thick confiftence are taken into the ftomach, and penetrate into the body, with greater difficulty than fuch as are thin and liquid: for this reafon thick medicines are generally naufeous; and for this reafon honey is diluted with water, that it may more eafily operate as a detergent upon the obftructed pores of the fkin. On the contrary, a thick confiftence is, on fome occafions, more to be defired; in ulcers, for inftance, of the afpera arteria and œfophagus, where medicines muft be given that can adhere long to the part affected. And hence it happens, that in medicines to be infpiffated, fome things are added which neither add to nor impair their operation, but only have a refpect to their confiftence; fuch as wax, for inftance, in ointments and plafters.

CONSISTENCE, when ufed relative to age or a difeafe, imports the ftate or acme thereof: thus we diftinguifh three ftates or ftages of a tree, its growth, confiftence or age, beyond which it does not grow, and return. The confiftence of oaks is from fifty to one hundred and fixty years. Some, however, hold that their confiftence only commences from one hundred years, afferting that they grow till that time, and that they continue in that ftate of perfection to two hundred years of age.

CONSISTENT BODIES, a term frequently ufed by Mr. Boyle, to fignify fuch bodies, whofe parts are firmly united together, fo that they do not fo eafily flide over one another's furfaces as the parts of a fluid bodies do.

That author has an effay of the Atmofphere of Confiftent Bodies, wherein he fhews that all, even folid, hard, fixed bodies emit effluvia to a certain fpace all around them. See EFFLUVIUM.

CONSISTENTES, in church-hiftory, an appellation given to fuch penitents as were permitted to affift at prayers, but not to partake of the facrament.

CONSISTORIAL, fomething belonging to a confiftory. See the next article.

CONSISTORY, at Rome, is an ecclefiaftical affembly held in the prefence of the pope, for the reception of princes, or their ambaffadors, for the canonization of faints, for the promotion of cardinals, and other important affairs.

When a public confiftory is to be held, the pope's throne is erected in the great hall of the apoftolic palace: the pope is feated on cloth of gold, under a canopy of the fame, and the foot of the throne is covered with red cloth. The cardinal bifhops and priefts fit on the right, below the throne, and the deacons on the left, but fo as to have their faces towards the pope. The archbifhops, bifhops, prothonotaries, and other prelates, fit on the fteps of the throne: on the loweft ftep the fubdeacons, auditors, clerks of the chamber, and acolyths with woollen cowls: and the ecclefiaftical officers of the pope's court on the ground. The nephews of the reigning pope, and other roman princes are ranged on each fide of the throne: and the entrance of the paffage leading to the throne is occupied by the pope's guard.

Befides the public confiftory there is alfo a private one, held in a retired chamber, called the chamber of papegay, into which none are admitted but cardinals: here the pope appears in a white filk caffock, and a red velvet cap laced with filver; and here are firft propofed and paffed all bulls for bifhopricks, abbeys, &c. which from thence are called confiftorial benefices.

The bifhop's courts in England, held before their chancellors or commiffaries, are called confiftory courts.

CONSISTORIES, among the Jews, courts of judicature, confifting of twenty-three perfons, who were appointed to fit in judgment upon the lives and fortunes of the people, and decided all caufes, a few only excepted. Thefe confiftories always fate in the gates of the cities. Their feffion began after morning-prayers, and continued to the end of the fixth hour.

CONSOLATION, a figure in rhetoric, wherein the orator endeavours to moderate the grief of another. A principal regard is always to be had to the circumftances and relations of the parties: thus, a fuperior may interpofe his authoriy, and even chide: a wife man may difpute; fentences will become him: an inferior is to fhew refpect and affection, and own that he had this from fome wife or learned perfon: and an equal is to appeal to their common friendfhip.

CONSOLE, in architecture, an ornament cut upon the key of an arch, which has a pro-

a projecture, and, on occasion, serves to support little corniches, figures, busts, and vases. They are also called mutules and modillions, according to their form: some of them are striated, others in form of cartouches, others have drops in form of triglyphs. Those made at the end of a plank of wood, cut triangularwise, are called ancones. See the articles MODILLIONS and ANCONES.

Mr. Le Clerc is of opinion that a console should always have something massive to sustain, and serve it as a rest.

CONSOLIDATION, in medicine, the action of uniting broken bones, or the lips of wounds, by means of conglutinating medicines.

CONSOLIDATION, in the civil law, signifies the uniting the possession or profit of land with the property, and *vice versa*. Thus, if a man have by legacy *usufructum fundi*, and afterwards buy the property, or fee simple, of the heir, this is called a consolidation.

CONSOLIDATION, in our law, is the uniting two benefices into one by assent of the ordinary, patron, and incumbent.

CONSONANCE, in music, is ordinarily used in the same sense with concord, *viz.* for the union or agreement of two sounds produced at the same time, the one grave and the other acute; which mingling in the air in a certain proportion, occasion an accord agreeable to the ear. See the article CONCORD.

Most authors confound consonance and concord together, tho' some of the more accurate distinguish them, making consonance a mere sounding of two notes together, or in the same time, in contradistinction to the motion of those sounds in succession, or one after the other. In effect the two notions coincide; for two notes thus played in consonance, constitute concord; and two notes that please the ear in consonance, will please it in succession. See SUCCESSION.

Notes in consonance constitute harmony, as notes in succession constitute melody. See the articles HARMONY, MELODY, and also TUNE.

In the popular sense, consonances are either simple or compound. The most perfect is unison; though many authors, both among the antients and moderns, discard it from the number of consonances, as conceiving consonances an agreeable mixture of grave and acute sounds, and not a repetition of the same sound. The first consonance is the octave, then the fifths, the fourths, the thirds, and sixths: the rest are multiples, or repetitions of these.

CONSONANCE, in grammar, signifies a like cadence of words and periods, a fault to be avoided in english, though the antients make a figure of them, which they call ὁμοιοτέλευτον.

CONSONANT, a letter that cannot be sounded without some single or double vowel before or after it.

Consonants are first divided into single and double; the double are *x* and *z*, the rest are all single: and these are again divided into mutes and liquids; eleven mutes, *b, c, d, f, v, g, j, k, p, q, t*; and four liquids, *l, m, n, r*. But the most natural division of consonants is that of the hebrew grammarians, who have been imitated by the grammarians of other oriental languages. These divide the consonants into five classes, with regard to the five principal organs of the voice, which all contribute, it is true, but one more notably than the rest, to certain modifications, which make five general kinds of consonants. Each class comprehends several consonants, which result from the different degrees of the same modification, or from the different motions of the same organs: these organs are the throat, palate, tongue, teeth, lips, whence the five classes of consonants are denominated guttural, palatal, lingual, dental, and labial.

The abbe Dangeau thinks the nature of the division of the hebrew grammarians very reasonable, but he does not acquiesce in the distribution they have made of them. In order to find a natural and just division of the consonants, he observes, no regard must be had to the characters that represent them, nor any thing to be considered but their sound, or the modification they give the sound. On this principle the same author finds in the french five labial consonants *b, p, v, f, m*; five palatal ones, *d, f, g, k, n*; four hissers, *f, z, j, ch*; two liquids, *l* and *r*; two that mix with each other, *ll, gn*; and the *h* aspirate. He adds, 1. That *m* and *n* are properly two nasal consonants, the *m* sounding like a *b* passed through the nose, and the *n* like a *d* pronounced through the nose. 2. That among the consonants some are weak, others strong; their difference consisting in this, that the former are preceded by a small emission of the voice, that softens them, which the latter have not: the weak are *b, c, d, g, z, j*;

z, *j*; the ftrong are *p*, *f*, *k*, *t*, *f*, *ch*: hence we may conclude that the excefs of confonants in one language above another only confifts in this, that there are more modifications of found eftablifhed in the one than in the other. For all men having the fame organs, may form the fame modifications; fo that it is entirely owing to cuftom, nothing to nature, that the Englifh have not the ϑ of the Greeks, the ע and ח of the Hebrews, the ch of the Germans, the *gn* of the French, the *gl* of the Italians, and the *ll* of the Welch. Alfo that the Chinefe have no *r*, the Iroquois no labial confonants, the Hurons abundance of afpirates, and the Arabs and Georgians abundance of double confonants. Laftly, to find all the confonants that may be formed in any language, there needs nothing but to obferve all the modifications that the founds of fpeech will admit of, by which we fhall have all the confonants practicable.

CONSORT, or CONCERT, in mufic. See the article CONCERT.

Queen-CONSORT is faid in contradiftinction to a fovereign princefs, or queen invefted with fupreme authority. See the article QUEEN.

CONSPIRACY, in law, fignifies an agreemen between two or more, falfely to indict, or procure to be indicted, an innocent perfon of felony.

The punifhment of a confpiracy upon an indictment of felony at the king's fuit, according to our old law, was, that the parties attainted fhall lofe their frank law, whereby they become difabled to be impanneled on juries, or to give evidence in court; that their lands, goods, and chattels fhall be feized into the king's hands, and their bodies committed to prifon. At this day, fine and imprifonment is ufually inflicted, where one is found guilty on an indictment for confpiracy.

A confpiracy to maintain fuits and quarrels, of victuallers to fell their victuals at a certain price, and of labourers and artificers to raife their wages, is alfo punifhable by ftatute.

CONSPIRATORS are, by ftatute, defined to be fuch as bind themfelves by oath, covenant, or other alliance, to affift one another, falfely and malicioufly to indict perfons, or falfely to maintain pleas. Likewife thofe that retain men in the countries with liveries or fees, in order to fupport their malicious enterprifes, which extends as well to the takers as the givers, and to ftewarts and bailiffs of lords, who, by their office or power, take upon them to maintain quarrels.

Confpirators in treafon are thofe that plot againft the king and government.

CONSPIRING POWERS, in mechanics, thofe acting in directions not oppofite. See the article POWER.

CONSTABLE. Lord high conftable, an antient officer of the crowns both of England and France, whofe authority was fo very extenfive, that the office has been laid afide in both kingdoms, except upon particular occafions, fuch as the king's coronation. The conftable of France had his perfon privileged, and, during the king's minority, was named next to the princes of the blood. The army obeyed him next the king: he managed all that belonged to war, either for punifhment of delinquents, diftribution of booty, furrender of places, &c. The jurifdiction and functions of this office are now in the marefchals of France.

The function of the conftable of England confifted in the care of the common peace of the land, in deeds of arms and matters of war. By a law of Richard II. the conftable of England has the determination of things concerning wars and blazonry of arms, which cannot be difcuffed by the common law. The firft conftable was created by the Conqueror: the office continued hereditary till the thirteenth of Henry VIII. when it was laid afide, as being fo powerful as to become troublefome to the king. We have alfo conftables denominated from particular places, as conftable of the Tower, of Dover-caftle, of Windfor-caftle, of the caftle of of Caernarvon, and many other of the caftles of Wales, whofe office is the fame with that of the caftellani, or governors of caftles.

From the lord-high conftable are derived thofe inferior ones, fince called the conftables of hundreds or franchifes, who were firft ordained in the thirteenth of Edward I. by the ftatute of Winchefter, which, for the converfation of peace and view of armour, appointed that two conftables fhould be chofen in every hundred. Thefe are what we now call high-conftables, on account that the increafe of people and offences has made it neceffary to appoint others under thefe, in every town, called petty-conftables, who are of the like nature, though of inferior authority to the other. The high conftable over the whole hundred is ufually chofen and fworn into his office by the juftices of the

the peace, in their sessions: and as to petty-constables in towns, villages, *&c.* the right of choosing them belongs to the court-leet, though they may be elected by the parishioners. They are appointed yearly, and ought to be men of honesty, knowledge and ability; and if they refuse to serve, or do not perform their duty, they may be bound over to the sessions, and there indicted and fined. Any constable, without a warrant from a justice, may take into his custody any persons that he sees committing felony, or breaking the peace; but if it be out of his sight, as where a person is seized by another, he cannot do it without a warrant.

CONSTANCE, a city of Swabia, in Germany, situated on the western shore of a lake, to which it gives name, in 9° 12′ east long. and 47° 37′ north latitude.

It is the see of a bishop, who is a prince of the german empire.

CONSTANT, in general, an appellation given to things which remain in the same state, without changing their nature or circumstances: thus we say, constant quantities, constant winds, *&c.* See the article QUANTITY, WIND, *&c.*

CONSTANTINA, the capital of a province of the same name, in the kingdom of Algiers, in Africa: east longitude 7°, and north latitude 35° 30′.

CONSTANTINOPLE, the metropolis of the turkish empire, called by the Turks themselves Stamboul, and by many Europeans the Port, being one of the best harbours in Europe: east long. 29° 15′, and north lat. 41° 30′.

It is built on the western shore of the Bosphorus, in the form of a triangle; the seraglio, or palace, occupying that angle which runs out between the Propontis and harbour; and underneath the palace are the gardens, which extend to the water-side.

CONSTAT, in law, a certificate, that the clerk of the pipe and auditors of the exchequer grant at the request of any person who intends to plead or move in that court, for the discharge of any thing. A constat is superior to an ordinary certificate, because it contains nothing but what is evident on record.

CONSTELLATION, in astronomy, a system of several stars that are seen in the heavens, near to one another. Astronomers not only mark out the stars, but, that they may better bring them into order, they distinguish them by their situation and position in respect to each other; and therefore they distribute them into asterisms, or constellations, allowing several stars to make up one constellation: and for the better distinguishing and observing them, they reduce the constellations to the forms of animals, as men, bulls, bears, *&c.* or to the images of some things known, as of a crown, a harp, a balance, *&c.* or give them the names of those, whose memories, in consideration of some notable exploit, they had a mind to transmit to future ages. The venerable Bede, indeed, out of a vain zeal, instead of the names and figures of the twelve constellations, or signs of the zodiac, substituted those of the twelve apostles; Julius Schillerius, in 1627, completed the reformation, and gave scripture-names to all the constellations in the heavens. But as these innovations could serve no purpose, but that of introducing quarrels into astronomy, the old constellations are still retained, both because better could not be substituted, and likewise to keep up the greater correspondence and uniformity between the old astronomy, and the new.

The division of the stars by images and figures is of great antiquity, and seems to be as old as astronomy itself; for in the most antient book of Job, orion, arcturus, and the pleiades are mentioned; and we meet with the names of many of the constellations in the writings of the first poets Homer and Hesiod.

The antients, in their division of the firmament, took in only so much as came under their notice, distributing it into forty-eight constellations; but the modern astronomers comprehend the whole starry firmament, dividing it into three regions: 1. The zodiac, or that portion of the heavens in which the planets would appear to move, to an eye placed in the sun: the breadth of this space depends on the inclination of the orbits, in which the planets move, to one another; and includes twelve constellations, commonly called the signs of the zodiac, *viz.* aries, taurus, gemini, cancer, leo, virgo, libra, scorpio, sagittarius, capricornus, aquarius, and pisces. 2. All that region of the heavens that lies on the north side of the zodiac, which contains twenty-one constellations, namely the ursa minor and major, draco, cepheus, bootes, corona septentrionalis, hercules, lyra, cygnus, cassiopeia, perseus, andromeda, triangulum, auriga, pegasus, equuleus, delphinus, sagitta, aquila, serpentarius, and serpens; to which were added afterwards two others, *viz.* that of antinous, which was made of the stars not included in

any image, near the eagle; and berenice's hair, confifting of ftars which are near the lion's tail. 3. That region on the fouthern fide of the zodiac, which contains fifteen conftellations, known to the antients, *viz.* cetus, the eridanus, lepus, orion, canis major, canis minor, argo, hydra, crater, corvus, centaurus, lupus, ara, corona meridionalis, and pifcis auftralis: to thefe are lately added twelve more conftellations, which are not to be feen by us, who inhabit the northern regions, becaufe of the convexity of the earth, but in the fouthern parts they are very confpicuous; thefe are the phœnix, grus, pavo, indus, avis paradifi, triangulum auftrale, mufca, chameleon, pifcis volans, toucan, hydrus, xiphias. The galaxy, or milky-way, is alfo to be reckoned among the conftellations. See each conftellation, and the number of ftars it contains, under its proper head, ARIES, TAURUS, &c.

Without the compafs of thefe conftellations there are feveral ftars which cannot be reduced to any of the forms mentioned, and thefe by the antients are called informes or fporades, out of which fome great aftronomers have made new conftellations, as Charles's heart, and Sobiefki's fhield. See the articles INFORMIS and SPORADES.

CONSTIPATION, in medicine, a hardnefs of the belly, with great coftivenefs. Riding poft, eating medlars, quinces, &c. and feveral preparations of milk, conftipate the belly: and moft perfons of a hot dry conftitution are afflicted with a conftipation; the proper remedy for which is a clyfter and lenient cathartics; but when thefe fail, other medicines of a more powerful nature muft be adminiftered.

CONSTITUENT PART, in phyfiology, an effential part in the compofition of any thing, differing little from what is otherwife called element or principle. See the articles ELEMENT and PRINCIPLE.

CONSTITUTION, in matters of policy, fignifies the form of government eftablifhed in any country or kingdom.

CONSTITUTION alfo denotes an ordinance, decifion, regulation, or law, made by authority of any fuperior, ecclefiaftical or civil. The conftitutions of the roman emperors make a part of the civil law, and the conftitutions of the church make a part of the canon law. See the articles CIVIL LAW and CANON LAW.

CONSTITUTION, by way of eminence, is an appellation given to that bull of pope Clement XI. which begins with the word *Unigenitus*. See the article BULL.

Apoftolical CONSTITUTIONS, a collection of regulations attributed to the apoftles, and fuppofed to have been collected by St. Clement, whofe name they likewife bear. It is the general opinion, however, that they are fpurious, and that St. Clement had no hand in them. They appeared firft in the IVth age, but have been much changed and corrupted fince that time. They are divided into eight books, confifting of a great number of rules and precepts, relating to the duties of chriftians, and particularly the ceremonies and difcipline of the church. Mr. Whifton, in oppofition to the general opinion, afferts them to be a part of the facred writings, dictated by the apoftles in their meetings, and wrote down from their own mouth by St. Clement, and intended as a fupplement to the New Teftament, or rather as a fyftem of chriftian faith and polity. The reafon why the conftitutions are fufpected by the orthodox, and, perhaps, the reafon alfo why their genuinenefs is defended by Mr. Whifton, is, that they feem to favour arianifm.

CONSTITUTION, in a phyfical fenfe, is that particular difpofition of the human body, which refults from the properties and mutual actions of the folids and fluids, and which renders them capable of exercifing the functions proper and conformable to nature. An equal conftitution is that wherein the four humours, blood, phlegm, bile, and melancholy, are mixed in a due proportion; and according as one or other of thefe predominates, the conftitution is denominated fanguine, phlegmatic, bilious, or melancholy and atrabilious. See TEMPERAMENT.

CONSTRICTION, the binding or drawing the parts of a thing clofe together.

CONSTRICTOR, an appellation given to feveral mufcles on account of their conftringing or clofing fome of the orifices of the body. Thus,

CONSTRICTOR LABIORUM, called alfo orbicularis, becaufe its fibres are of an arched figure, is a mufcle which conftitutes the very fubftance of the lips, and draws them up as in kiffing; whence it is alfo called bafiator and ofculatorius.

CONSTRICTOR NASI, a mufcle arifing above the dentes incifores of the upper jaw, and terminating in the alæ of the nofe. It is but fingle, though Santorini will have it that it is double, and is not orbicular in human fubjects as in many of

of the quadrupeds. Properly ſpeaking, indeed, there is in the human frame no ſuch muſcle as the conſtrictor orbicularis of beaſts, but this ſerves ſome degree in its office. The uſe is to draw the alæ downwards, and at the ſame time to draw the upper lip downwards, in which action it is very much aſſiſted by the conſtrictor of the lips.

CONSTRUCTION, in geometry, is the drawing ſuch lines, ſuch a figure, &c. as are previouſly neceſſary for the making any demonſtration appear more plain and undeniable.

CONSTRUCTION *of equations*, in algebra, the method of drawing a geometrical figure whoſe properties ſhall expreſs the given equation, in order to demonſtrate the truth of it geometrically.

Conſtruction of ſimple equations is performed by reſolving the fractions to which the unknown quantity is equal, into proportional parts. Thus if $\frac{da}{b}=x$, then it will be as $b:d::a:x$. Whence x will be determined by the method of finding a fourth proportional. Suppoſe the equation to be $\frac{ab+mn}{r-s}=x$, firſt find a mean proportional between a and b, which ſuppoſe to be p, alſo another mean proportional between m and n, which ſuppoſe to be q, then the equation will ſtand thus $\frac{pp+qq}{r-s}=x$. Which may be conſtructed in the following manner. Let the baſe A B (plate L. fig. 1. n°. 1.) of the right angled triangles A P B be made equal to q, and the perpendicular A P equal to p; then will P B^2 be equal $pp+qq$, which according to the equation is to be divided by $r-s$. Therefore it will be as $r-s$: P B $(=\sqrt{pp+qq})$ :: P B to a third proportional, which will give x required.

CONSTRUCTION *of quadratic equations*. In order to render the conſtruction of quadratic equations more eaſy to be underſtood, it is neceſſary to ſhew the nature of curves of the ſecond order, which are made uſe of in conſtructing equations of this kind. See the article CURVE.

The general equation expreſſing the nature of the lines of the ſecond order, having all its terms and coefficients, will be in this form.

$$\left.\begin{array}{l} y^2+axy+cx^2 \\ \quad+\ by+dx \\ \qquad+\ e \end{array}\right\}=0$$

Where a, b, c, d, e repreſent any given quantities with their proper ſigns prefixed to them. If a quadratic equation is given, as $y^2+py+q=0$, and by comparing it with the preceding, you take the quantities a, b, c, d, e, and x ſuch, that $ax+b=p$, and $cx^2+dx+e=q$, then will the values of y in the firſt equation be equal to the values of it in the ſecond; and if the locus be deſcribed according to the firſt equation, the two values of the ordinate, when $ax+b=p$ and $cx^2+dx+e=q$, will be the two roots of the equation $y^2+py+q=0$. See LOCUS.

And as four of the given quantities a, b, c, d, e may be taken at pleaſure, and the fifth with the abſciſſe determined ſo, that $ax+b$ may be ſtill equal to p, and $cx^2+dx+e=q$; hence there are innumerable ways of conſtructing the ſame equation. But theſe loci are to be preferred which are deſcribed moſt eaſily; and therefore the circle of all conic ſections is to be preferred for the reſolution of quadratic equations.

Let A B (*ibid.* n°. 2.) be perpendicular to A E, and upon A B deſcribe the ſemicircle B M M A. If A P be ſuppoſed equal to x, A B$=a$, and P M$=y$, then making M R M R perpendiculars to the diameter A B, ſince A R $\times$ R B $=$ R M^2, and A R $=y$, R B $=a-y$, R M $=x$, it follows that $a-y\times y=x^2$, and $y^2-ay+x^2=0$. And if an equation $y^2-py+q=0$ be propoſed to be reſolved, its roots will be the ordinates to the circle, P M and P M, to its tangent A E, if $a=p$, and $x^2=q$: becauſe then the equation of the circle $y^2-ay+x^2=0$ will be changed into the propoſed equation $y^2-py+q=0$.

We have therefore this conſtruction for finding the roots of the quadratic equation $y^2-py+q=0$, take A B$=p$, and on A B deſcribe a ſemicircle: then raiſe A E perpendicular to A B, and on it take A P $=\sqrt{q}$, that is, a mean proportional between 1 and q (by 13 el. 6) then draw P M parallel to A B, meeting the ſemicircle in M M and the lines P M, P M ſhall be the roots of the propoſed equations.

It appears from the conſtruction that if $q=\frac{p^2}{4}$ or $\sqrt{q}=\frac{1}{2}p$, then A P$=\frac{1}{2}$ A B, and the ordinate P N touches the curve in N, the two roots P M, P M in that caſe becoming equal to one another and to P N. If A P be taken greater than $\frac{1}{2}$ A B, that is, when the $\sqrt{q}$ is greater than

than $\frac{1}{2} p$, or q greater than $\frac{1}{4} p$, the ordinates do not meet the circle, and the roots of the equation become imaginary.

The roots of the ſame equation may be otherwiſe thus determined. Take AB $=\sqrt{q}$, (*ibid.* n°.3.) and raiſe BD perpendicular to AB; from A as a center with a radius equal to $\frac{1}{2} p$ deſcribe a circle meeting BD in C, then the two roots of the equation $y^2-py+q=0$ ſhall be AC + CB, and AC − CB. For theſe roots are $\frac{1}{2}p+\sqrt{\frac{1}{4}p^2-q}$, and $\frac{1}{2}p-\sqrt{\frac{1}{4}p^2-q}$; and $AC=\frac{1}{2}p$ $CB=\sqrt{AC^2-CB^2}$ $=\sqrt{\frac{1}{4}p^2-q}$, and conſequently theſe roots are AC ± BC. The roots of the equation $y^2+py+q=0$ are $-AC\pm CB$. The roots of the equation $y^2-py-q=0$ are determined by this conſtruction. Take $AB=\frac{1}{2}p$, $BC=\sqrt{q}$, (*ibid.* n°. 4.) draw AC, and the two roots ſhall be AB ± AC. If the ſecond term is poſitive, then the roots ſhall be $-AB\pm AC$. And all quadratic equations being reducible to theſe four forms,

$$y^2-py+q=0$$
$$y^2+py-q=0$$
$$y^2-py-q=0$$
$$y^2+py+q=0$$

it follows that they may all be conſtructed by this and the foregoing method.

CONSTRUCTION *of cubic and biquadratic equations.* The roots of any equation may be determined by the interſections of a ſtraight line with a curve of the ſame dimenſions as the equation, or by the interſections of any two curves, whoſe indices multiplied by each other, give a product equal to the index of the propoſed equation. Thus the roots of a biquadratic equation may be determined by the interſections of two conic ſections; for the equation by which the ordinates from the four points in which theſe conic ſections may cut one another can be determined, will ariſe to four dimenſions: and the conic ſections may be aſſumed in ſuch a manner, as to make this equation coincide with any propoſed biquadratic: ſo that the ordinates from theſe four interſections, will be equal to the roots of the propoſed biquadratic. If one of the interſections of the conic ſection falls upon the axis, then one of the ordinates vaniſhes, and the equation by which theſe ordinates are determined will then be of three dimenſions only, or a cubic, to which any propoſed cubic equation may be accommodated. So that the three remaining ordinates will be the three roots of that propoſed cubic.

Thoſe conic ſections ought to be preferred for this purpoſe that are moſt eaſily deſcribed. They muſt not, however, be both circles; for their interſections are only two, and can ſerve only for the reſolution of quadratic equations. Yet the circle ought to be one, as being moſt eaſily deſcribed, and the parabola is commonly aſſumed for the other. Their interſections are determined in the following manner. Let APE be the common apollonian parabola, (*ibid.* n°. 5.) Take on its axis the line AB = half of its parameter. Let C be any point in the plane of the parabola, and from it, as a center, deſcribe with any radius CP a circle meeting the parabola in P. Let PM, CD be perpendiculars on the axis in M and D, and let CN parallel to the axis meet PM in N. Then will always $CP^2=CN^2+NP^2$ (by 47 of Euclid, book I.). Put $CP=a$, the parameter of the parabola $=b$, $AD=c$, $DC=d$, $AM=x$, $PM=y$. Then $CN^2=\overline{x\backsim c}^2$, $NP^2=\overline{y\backsim d}^2$; and $\overline{x\backsim c}^2+\overline{y\backsim d}^2=a^2$. That is $x^2\pm 2cx+c^2+y^2\pm 2dy+d^2=a^2$. But from the nature of the parabola, $y^2=bx$, and $x^2=\frac{y^4}{b^2}$; ſubſtituting therefore theſe values for x^2 and x, it will be $\frac{y^4}{b^2}\pm\frac{2cy^2}{b}+y^2\pm 2dy+c^2+d^2-a^2=0$. Or multiplying by b^2, $y^4\pm\overline{2bc+b^2}\times y^2\pm 2d b^2\times y+\overline{c^2+d^2-d^2}\times b^2=0$. Which may repreſent any biquadratic equation that wants the ſecond term; ſince ſuch values may be found for a, b, c, and d, by comparing this with any propoſed biquadratic as to make them coincide. And then the ordinates from the points P, P, P, P, on the axis, will be equal to the roots of that propoſed biquadratic; and this may be done through the parameter of the parabola, *viz.* b, be given: that is, if you have a parabola already made or given, by it alone you may reſolve all biquadratic equations, and you will only need to vary the center of your circle and its radius.

If the circle deſcribed from the center (*ibid.* n°. 6.) paſs through the vertex A, then $CP^2=CA^2=CD^2+AD^2$, that is $a^2=d^2+c^2$; and the laſt term

term of the biquadratic $(c^2 + d2 - a^2)$ will vaniſh; therefore dividing the reſt by y, there ariſes the cubic $y^3 * \pm \overline{2bc + b^2} \times y \pm 2db^2 = 0$.

Let the cubic equation propoſed to be reſolved be $y^3 * \pm py \pm r = 0$. Compare the terms of theſe two equations and you will have $\pm 2bc + b^2 = \pm p$, and $\pm 2d b^2 = \pm r$, or $\mp c = \frac{b}{2} \mp \frac{p}{2b}$, and $d = \pm \frac{r}{2b^2}$. From which you have this conſtruction of the cubic $y^3 * \pm py \pm r = 0$, by means of any given parabola APE. From the point B, take in the axis (forward if the equation has $-p$, but backwards if p is poſitive) the line $BD = \frac{p}{2b}$; then raiſe the perpendicular $DC = \frac{r}{2b^2}$, and from C deſcribe a circle paſſing through the vertex A, meeting the parabola in P; ſo ſhall the ordinate PM be one of the roots of the cubic $y^3 * \pm py \pm r = 0$. The ordinates that ſtand on the ſame ſide of the axis with the center C, are negative or affirmative, according as the laſt term r is negative or affirmative; and thoſe ordinates have always contrary ſigns that ſtand on different ſides of the axis. The roots are found of the ſame value; only they have contrary ſigns when r is poſitive, to what they have when it is negative, the ſecond term of the equation being wanting.

We have now ſhewn how the roots of cubic and biquadratic equations may be conſtructed by the parabola and circle; but whoſoever is curious to know how other conic ſections may be determined, by whoſe interſections the ſame roots may be diſcovered, is deſired to conſult Mr. Maclaurin's Algebra, Renatus Sluſius in Meſolabium, De la Hire's Conſtruction des equations Analytiques, Sir Iſaac Newton at the end of his Algebra, Dr. Halley's Conſtruction of cubic and biquadratic equations, Mr. Colſon's in the Philoſophical Tranſactions, and De l'Hoſpital's Traité Analytique des Sections Coniques.

CONSTRUCTION, in grammar, the connecting the words of a ſentence according to the rules of the language.

Conſtruction is either ſimple or figurative, according as the parts of the diſcourſe are placed in their natural order; or recede from that ſimplicity, when ſhorter and more elegant expreſſions are uſed than the nature affords.

The conſtruction of words, called ſyntax, is diſtinguiſhed into two parts, concord and regimen. See SYNTAX, CONCORD, and REGIMEN.

CONSUALIA, in roman antiquity, a feſtival inſtituted by Romulus, who at the time of the rape of the Sabine virgins found an altar under ground dedicated to the god Conſus, that is Neptune. They were introduced with a magnificent cavalcade, and during the celebration, the horſes and aſſes were crowned with flowers, and a mule was ſacrificed to that god.

Servius ſays the conſualia fell on the 13th of Auguſt. Plutarch places them on the 18th, and the old roman calendar on the 21ſt of that month.

CONSUBSTANTIAL, among divines, a term denoting ſomething of the ſame ſubſtance with another. Thus the orthodox believe the ſon of God to be conſubſtantial with the father. The word ὁμοούσιος, conſubſtantial, was firſt adopted by the fathers of the councils of Antioch and Nice, to expreſs the orthodox doctrine more preciſely, and to ſerve as a barrier and precaution againſt the errors and ſubtilties of the Arians, who owned every thing except the conſubſtantiality.

CONSUBSTANTIATION, a tenet of the lutheran church with regard to the manner of the change made in the bread and wine in the euchariſt.

The divines of that profeſſion maintain, that after conſecration, the body and blood of our Saviour are ſubſtantially preſent, together with the ſubſtance of the bread and wine which is called conſubſtantiation or impanation. See the articles LUTHERANS and IMPANATION.

CONSUETUDINIBUS and SERVITIIS, in law, is a writ which lies againſt a tenant that deforces a lord of the rent and ſervice due.

CONSUL, the chief magiſtrate of the roman commonwealth. They were two in number, choſen every year in the campus martius, by the people aſſembled in the comitia centuriata. In the firſt times of the commonwealth, no man could pretend to this dignity, but ſuch as were of a patrician family; but afterwards the people obtained, that one of the conſuls ſhould be choſen from among them. A conſul was commonly choſen at 43 years of age, but this was not always obſerved: beſides, it was requiſite he ſhould have exerciſed

exercifed other offices, as that of quæftor, ædile and pretor: and yet this condition was no better obferved than the firft; for Pompey had never been pretor nor quæftor when he obtained the confulfhip. Their authority and power was of very great extent, fo long as the commonwealth fubfifted. They were the head of the fenate: they commanded the armies, and were fupreme judges of the differences between the citizens; but as they had made fome abufe of this power, it was allowed by the valerian law for the party aggrieved to appeal from their tribunal to the people, efpecially in cafes where the life of a citizen was concerned. Under the emperors, conful was little more than an honourable title, and at laft it became abfolutely extinct in the time of Juftinian. From the eftablifhment of the republic to the confulate of Bafil, that is, from the year of Rome 244, to the year of Rome 1294, the years were accounted by the confuls; but after that period, the time was computed by the years of the emperors reigns and the indictions.

In the middle age, we find the word conful ufed for comes, and proconful or viconful, for vifcount, as is obferved by Spelman and De Marca. See the article COUNT.

CONSUL, at prefent, is an officer eftablifhed by virtue of a commiffion from the king and other princes, in all foreign countries of any confiderable trade, to facilitate and difpatch bufinefs, and protect the merchants of the nation. The confuls are to keep up a correfpondence with the minifters of England refiding in the courts whereon their confulate depends. They are to fupport the commerce and the intereft of the nation; to difpofe of the fums given and the prefents made to the lords and principals of places, to obtain their protection, and prevent the infults of the natives on the merchants of the nation.

By the treaty of Utrecht between Great Britain and Spain, the conful refiding in the king of Spain's dominions fhall take inventories of the eftates of the Englifh dying inteftate in Spain; and thefe eftates fhall be intrufted with two or three merchants, for the fecurity and benefit of the proprietors and creditors.

The ftatute of 9 Geo. II. enacts, that it fhall be lawful for perfons appointed by the confuls at the ports of Cadiz and St. Mary's in Spain, with the majority of the britifh factors and merchants there, to receive from all britifh and irifh fhips trading there, any fums of money not exceeding one rial plate per ducat on the freight of goods and merchandize there imported, and on all tonnage goods not exceeding two rial plates per ton, and all their bills of lading fhall fpecify to pay the fame under denomination of contribution. And all britifh and irifh commanders trading to the faid ports, and delivering there, fhall, within ten days after their arrival, deliver a manifefto upon oath, fpecifying the particulars of the cargo, and to whom configned; which oath is to be adminiftered by the conful, or whom he fhall appoint, and the clearances outwards detained by him till payment of the money is made; and any departing without his clearances, the conful, on fuch mafter's return to any port in the king's dominions, may have an action at law againft him for the faid money. All monies raifed to be applied to the relief of fhipwrecked mariners or other diftreffed perfons his majefty's fubjects, and other charitable ufes, are appointed by the conful.

CONSULS in France, are judges elected among merchants in ports and trading towns, to terminate, gratis and on the fpot, fuch differences as may arife relating to merchandizes, bills of exchange, and other articles of commerce. The qualifications neceffary for obtaining the confulfhip at Paris, and in feveral other places, are, 1. To have been, or to be actually a merchant. 2. To be a native of the kingdom. 3. To be an inhabitant of that city. 4. To be of an unblemifhed character.

CONSULAR, fomething belonging to a conful. See the article CONSUL.

CONSULTATION, in law, a writ by which a caufe being removed from the fpiritual court to the king's court, is returned thither again; and the reafon is, that if the judges of the king's court, by comparing the libel with the fuggeftion of the party, find the fuggeftion falfe or not proved, and on that account the caufe to be wrongfully called from the ecclefiaftical court, then upon this confultation or deliberation they decree it to be returned. This writ is in the nature of a procedendo; yet properly a confultation ought not to be granted, only in cafe where a perfon cannot recover at the common law. In caufes of which the ecclefiaftical and fpiritual courts have jurifdiction, and

and they are not mixed with any temporal thing; if ſuggeſtion is made for a prohibition, a conſultation ſhall be awarded. See the article PROHIBITION.

CONSUMMATION, the end or completion of a work. Thus we ſay, the conſummation of all things, meaning the world.

Conſummation of marriage, the laſt act of marriage which makes its accompliſhment, or the moſt intimate union between the married pair.

CONSUMPTION, in medicine, a word of very extenſive ſignification, implies all diſorders that bring any decay or waſte upon the conſtitution.

Phyſicians divide it into ſeveral kinds, according to the variety of its cauſes, as univerſal or ſcorbutic conſumption, where it ariſes from a cacochymia or ſcorbutic habit; and pulmonic conſumption, where it ariſes from ſome cauſe in the lungs, properly called a phthiſis. See the articles SCURVY and PHTHISIS.

A conſumption may either be hereditary, natural, or accidental. In the firſt caſe, the taint is originally fixed in the conſtitution of the embryo, and interwoven with its firſt principles of life. A natural conſumption may proceed from the ſtraitneſs of the thorax, or a particular ill formation in ſome of the principal viſcera; and the laſt ſpecies, called alſo ſymptomatic conſumptions, derive their origin, or in ſome ſort depend upon various diſtempers; as, 1. A conſumption ariſing from a gonorrhœa, or a fluor albus, if it be confirmed, and hath been of a long ſtanding, is very difficult to cure: if it be recent, the running is to be ſtopped with great caution; and the hectical heats, if any, are to be allayed by means of a milk diet, or the chalybeate mineral waters. 2. A conſumption from abſceſſes and ulcers, in which caſe the ulcer muſt be ſeaſonably healed with the uſe of internals as well as externals; internal balſamics muſt be preſcribed, and the greateſt care taken after the cure of the ulcer, leſt a pulmonary conſumption ſhould follow, wherefore iſſues are to be made, and the uſe of balſamics continued, with a milk diet and mineral waters. 3. A conſumption from giving ſuck. The infant is to be weaned in time, and the nurſe to uſe a diet that yields good nouriſhment; and if a hectic diſpoſition requires it, a milk diet and chalybeate waters. 4. A ſcrophulous conſumption, which is known by the glandulous tumours in the outward parts of the body, and from the frequent returns of ſore eyes and the itch. For the cure, unleſs there is an obſtruction of the liver attended with a dropſy, chalybeate waters muſt be drank a conſiderable time in ſummer. In winter, gums and balſamics muſt be taken; and in the ſpring, a diet-drink with millepedes and antiſcrophulous and pectoral ingredients. Opiates ſhould not be given but in caſes of neceſſity. 5. A ſcorbutic conſumption, the principal diagnoſtics of which are an eruption of ſpots diſpoſed here and there throughout the whole ſkin, almoſt a continual diſcharge of a viſcid ſaline pus from the jugular glands, eſpecially in the morning; and an exulceration and extenuation of the jaws. The cure of this diſeaſe differs from the general method in the following particulars. Opiates are always noxious; the pectoral medicines ſhould be ſuch as incide and cleanſe: they ſhould likewiſe be blended with antiſcorbutics, as water-creſſes, &c. and ſteel is alſo uſeful, unleſs the diſeaſe is too far advanced. 6. An aſthmatic conſumption, for which there is nothing better than a fine, thin, wholeſome air; and when this diſeaſe proceeds from a convulſive aſthma, hartſhorn drops will be beneficial. 7. A conſumption proceeding from hypochondriac and hyſteric affections, in which, beſides the general method of cure, antihyſterics muſt be given. 8. A conſumption proceeding from the green ſickneſs, and a ſuppreſſion of the menſes, with many others, as a conſumption from a diarrhœa, a dyſentery, a diabetes, a ſalivation, a dropſy, &c. which have nothing peculiar in the manner of their cure but what relates to the primary diſeaſes and a phthiſis in general. See the articles PHTHISIS, DIARRHOEA, DIABETES, &c.

CONTACT, is when one line, plane, or body is made to touch another, and the parts that do thus touch, are called the points or places of contact. The contact of two ſpherical bodies, and of a tangent with the circumference of a circle, is only in one point.

CONTAGION, in phyſic, the communicating a diſeaſe from one body to another. In ſome diſeaſes it is only affected by an immediate contact or touch, as the venom of the pox; in others it is conveyed by infected cloaths, as the itch; and in others it is tranſmitted through the air at a conſiderable diſtance, by means

of steams or effluvia expiring from the sick, as in the plague and other pestilential disorders, in which case the air is said to be contagious; that is, full of contagious particles. See the articles PLAGUE, POISON, &c.

CONTEMPLATION, an act of the mind, whereby it applies itself to consider and reflect upon the works of God, nature, &c.

Contemplation among mystic divines, is defined a simple, amorous view of God as present to the soul; and is said to consist in acts so simple, so direct, so uniform and peaceful, that there is nothing for the mind to take hold of whereby to distinguish it.

CONTEMPORARY, a person or thing that existed in the same age with another. Thus Socrates, Plato, and Aristophanes were contemporaries.

CONTENEMENT, in our old law-books, a term of different import; being sometimes used for credit, or countenance; and, at other times, for the maintenance proper for each person, according to his rank and condition in the commonwealth.

CONTENT, in geometry, the area or quantity of matter or space included in certain bounds.

The content of a tun of round timber is 43 solid feet. A load of hewn timber contains 50 cubic feet: in a foot of timber are contained 1728 cubic or square inches; and as often as 1728 inches are contained in a piece of timber, be it round or square, so many feet of timber are contained in the piece.

For the contents of cylindrical vessels, and vessels of other figures, see the article GAUGING.

CONTENTIOUS JURISDICTION, in law, denotes a court which has power to decide differences between contending parties.

The lords-justices, judges, &c. have a contentious jurisdiction; but the lords of the treasury, the commissioners of the customs, &c. have none, being merely judges of accounts and transactions.

CONTESSA, a port town of Turky in Europe, in the province of Macedonia, situated on a bay of the Archipelago, about 200 miles west of Constantinople: east long. 25°, and north lat. 41°.

CONTEXT, among divines and critics, that part of scripture or of a writing that precedes and follows the next. See the article TEXT.

In order to have the full sense of the text, the context should be regarded.

CONTI, a town of Picardy, in France, about fifteen miles south-west of Amiens: east long. 2° 20′, north lat. 49° 40′.

CONTIGNATION, in the antient architecture, the art of laying rafters together, and particularly flooring. See the articles FLOOR and RAFTERS.

CONTIGUITY, in geometry, is when the surface of one body touches that of another.

CONTIGUOUS ANGLES, in geometry, are such as have one leg common to each angle, and are sometimes called adjoining angles, in contradistinction to those produced by continuing their legs through the point of contact, which are called opposite or vertical angles. See ANGLE.

The sum of any two contiguous angles, is always equal to two right angles.

CONTINENT, in general, an appellation given to things continued without interruption; in which sense we say, continent fever, &c. See the article FEVER.

CONTINENT, in geography, a great extent of land not interrupted by seas, in contradistinction to island, peninsula, &c.

According to what relations we have of the disposition of the globe from late navigators, we may count four continents, of which there are but two well known. The first, called the antient continent, comprehends Europe, Asia, and Africa. The second is the new continent, called America. The third, which is called the northern or arctic continent, comprehends Greenland, the lands of Spitzberg, Nova Zembla, and the lands of Jesso. The fourth comprehends New Guinea, New Zealand, New Holland, and several others hitherto little known. Some authors think the two first continents are in reality only one, imagining the northern parts of Tartary to join with those of north America.

CONTINENT *cause of a distemper*, that upon which the disease depends so immediately, that it continues so long as that remains, and no longer.

CONTINGENT, something casual or uncertain. Hence future contingent, in logic, denotes a conditional event which may or may not happen, according as circumstances fall out. The Socinians maintain, that God cannot foresee future contingents, because depending on the free motions of the will of man.

CONTINGENT is also a term of relation for the quota that falls to any person upon a division. Thus each prince in Germany, in time of war, is to furnish so many

men,

men, so much money and munition for his contingent.

CONTINGENT USE, in law, is an use limited in a conveyance of lands which may or may not happen to vest, according to the contingency mentioned in the limitation of the use. And a contingent remainder, is when an estate is limited to take place at a time to come, on an uncertain event.

CONTINGENT LINE, in dialling, is a line that crosses the substyle at right angles. See SUBSTYLAR and DIALLING.

CONTINGENTS are sometimes used by mathematicians in the same sense as tangents. See the article TANGENT.

CONTINUAL CLAIM, in law, a claim that is made from time to time within every year and a day to lands, &c. which in some respect one cannot attain without danger.

CONTINUANCE, in law, is the continuing of a cause in court by an entry made for that purpose upon the records there.

CONTINUANCE *of a writ or action*, is its continuing in force from one term to another, where the sheriff has not returned a former writ issued out in the same action. With respect to continuances, the court of king's bench is not to enter them on the roll till after issue or demurrer, and then they enter the continuance of all on the back, before judgment.

CONTINUANDA ASSISA. See ASSISA.

CONTINUANDO, a term used in a special declaration of trespass, where the plaintiff would recover damages for several trespasses in one and the same action. To avoid multiplicity of suits, a person may in one action of trespass, recover damages for many trespasses committed, by laying the same to be done with a continuando.

CONTINUANDO PROCESSUM. See the article PROCESSUM.

CONTINUATION *of motion*. See the articles MOTION and PROJECTILE.

CONTINUATO, in music, signifies, especially in vocal music, to continue or hold on a sound in an equal strength or manner, or to continue a movement in an equal degree of time all the way.

CONTINUED FEVER, a fever attended with exacerbations and slight remissions, but no intermissions.

CONTINUED PROPORTION, in arithmetic, is that where the consequent of the first ratio is the same with the antecedent of the second; as 4 : 8 : : 8 : 16, in contradistinction to discrete proportion. See the article DISCRETE.

CONTINUED *thorough bass*, in music, that which continues to play constantly, both during the recitatives, and to sustain the chorus. See the article CHORUS.

CONTINUITY, is defined by some schoolmen the immediate cohesion of parts in the same quantum; by others, a mode of body whereby its extremities become one; and by others, a state of body resulting from the mutual implication of its parts. There are two kinds of continuity, mathematical and physical. The first is merely imaginary, since it supposes real or physical parts where there are none. Physical continuity is that state of two or more particles, in which their parts are so mutually implicated, as to constitute one uninterrupted quantity or continuum. The schoolmen again divide it into two other sorts of continuity, as, 1. Homogeneous continuity, that where our senses cannot perceive the bounds or extremes of the parts; and this agrees to air, water, metals, &c. 2. Heterogeneous continuity, where the extremities of certain parts are indeed perceived by the senses, yet, at the same time, the parts are observed to be linked closely to each other, either in virtue of their situation or figure, &c. and this is chiefly attributed to the bodies of plants and animals.

In medicine and surgery, wounds, ulcers, fractures, &c. are expressed by the phrase solutio continui, or solution of continuity.

CONTINUO, in music, signifies the thorough bass, as basso continuo is the continual or thorough bass, which is sometimes marked in music books by the letters B. C.

CONTINUO is also a species of harmony or mode, mentioned by Julius Pollux, and which, says Zarlin, answers to the perpetual burden of our bagpipes, which now and then must be harmonious.

CONTORSION, in medicine, has many significations. 1. It denotes the iliac passion. 2. An incomplete dislocation, when a bone is in part, but not intirely, forced from its articulation. 3. A dislocation of the vertebræ of the back sideways, or a crookedness of these vertebræ. And, 4. A disorder of the head, in which it is drawn towards one side, either by a spasmodic contraction of the muscles on the same side, or a palsy of the antagonist muscles on the other.

CONTOUR, in painting, the out-line, or that which defines a figure.

A great part of the skill of the painter lies in managing the contours well. Contour, with the italian painters, signifies the lineaments of the face.

CONTOURNE, in heraldry, is used when a beast is represented standing or running with its face to the sinister side of the escutcheon, they being always supposed to look to the right, if not otherwise expressed.

CONTOURNIATED, a term among antiquaries applied to medals, the edges of which appear as if turned in a lathe. This sort of work seems to have had its origin in Greece, and to have been designed to perpetuate the memories of great men, particularly those who had bore away the prize at the solemn games. Such are those remaining of Homer, Solon, Euclid, Pythagoras, Socrates, and several athletæ.

CONTRA FORMAM COLLATIONIS, a writ that lies to recover lands which being given in perpetual alms to a religious house, hospital, school, or the like, have been alienated by the governors or managers.

CONTRA FORMAM FEOFFAMENTI, is a writ which lies for the heir of a person enfeoffed of lands or tenements, who is distrained by the lord for more services than are contained in the charter of feoffment.

CONTRABAND, in commerce, a prohibited commodity, or merchandise bought or sold, imported or exported, in prejudice to the laws and ordinances of a state, or the public prohibitions of the sovereign. Contraband goods are not only liable to confiscation themselves, but also subject all other allowed merchandise found with them in the same box, bale or parcel, together with the horses, waggons, *&c.* which conduct them. There are contrabands likewise, which, besides the forfeiture of the goods, are attended with several penalties and disabilities.

The principal goods prohibited to be imported into Great Britain, are * alamodes and lustrings, except in the port of London, and by licence; * ammunition without licence from the king; * arms, without licence from the king; * beef; bits for bridles; * popish books; brandy in casks less than 60 gallons, or in ships less than 15 tuns burden; * buttons of all sorts; printed, painted, stained or dyed callicoes; cards for wool, and playing cards; * cattle; chocolate ready made, or cocoa paste; cinnamon, without licence, except from India; * woolen cloths; cloves, without licence, except from India; * cheese and butter from Ireland; dice; east-india, persia, and china wrought silks, bengals, stuffs mixed with silk, or herba, except into the port of London, and under special regulations; fish of all sorts taken by foreigners, and imported in foreign ships, except stock-fish, live eels, sturgeon, botargo or cavier, and anchovies; * fringes of silk or thread; gold or silver thread, lace, fringe, or other works made thereof; * malt from beyond sea; * mutton; salt in ships under twenty tun or not in bulk; * sheep; silk embroidered, raw, and mohair yarn, of the product or manufacture of Asia, from any ports or places on the Streights or Levant seas, except such as are within the dominions of the grand signior; thrown silk, except from Italy, Naples, or Sicily; twined silk; *wrought silk mixed with gold, silver, or other materials; * swine; tea, except from the place of its growth; all tobacco-stalks and stems; all tobacco, wine, brandy, east-india or other commodities, other than the growth or manufacture of the isle of Man, prohibited to be brought from thence into Great Britain or Ireland, on any pretence whatsoever; * utensils of war, without licence from the king; * cut whalebone; wire of iron or lattin for wool; cards and all iron wire smaller than fine and superfine, and all wares made of iron wire.

Goods prohibited to be exported, are boxes, cases or dial-plates for clocks and watches without the movement and makers names; bullion, without proper certificates, oaths, *&c.* frames for stockings; raw hides; unwrought horns; metal not of british ore, except copper-bars; wool; scowring and fullers clay; sheep and sheepskins with the wool; tallow; utensils used in the silk and woolen manufactory; white ashes, *&c.*

N. B. Such goods in the foregoing list as have an asterisk prefixed before them, besides the forfeiture in common with the rest, are attended with several penalties.

CONTRACT, in a general sense, a mutual consent of two or more parties, who voluntarily promise and oblige themselves to do something, pay a certain sum, or the like. All donations, exchanges, leases, *&c.* are so many different contracts.

CONTRACT, in common law, an agreement or bargain between two or more persons with a legal consideration or cause; as where a person sells goods, *&c.* to another for a sum of money; or covenants, in consideration of a certain sum, or an annual rent, to grant a lease of a messuage, *&c.*

These are good contracts in law, because there is one thing in consideration for another: but if a person promises to give or pay 20 s. which afterwards, on being demanded, he refuses to pay, no action lies to recover it; because such a promise will not amount to a contract, it being no more than a bare promise, termed in law *nudum pactum*: yet, if any thing was given in consideration of such a promise, were it but to the value of a penny, it is deemed a good contract, and consequently will be binding. In contracts the time is to be regarded, in and from which they are made; and there is a difference where a day of payment is limited thereon, and where not: for when it is limited, the contract is good presently, and an action lies on it without payment; but, in the other case, it is otherwise.

Usorious CONTRACT, is an agreement to pay more interest for money than the laws allow.

It is a devastavit in executors to pay a debt upon an usorious contract. In marriage, the romanists distinguish the civil contract, which is the consent of the parties, from the sacrament, which is the benediction of the priest: those contracts are said to be null and void, which the law prohibits the making of.

CONTRACT is also used for the instrument in writing which serves as a proof of the consent granted, and the obligation passed between the parties.

CONTRACTILE FORCE, that property or power inherent in certain bodies, whereby, when extended, they are enabled to draw themselves up again to their former dimensions.

CONTRACTION, in grammar, is the reducing of two syllables into one, as *can't* for *cannot*, *should'st* for *shouldest*, &c. The greek language, both in its verbs and nouns, abound in contractions, as βοαω is contracted into βοῶ, ποιέω, contracted into ποιῶ, *&c.*

The french language has in its pronunciation, at least, something like it, as when they pronounce *saouler*, *baailler*, *paon*, &c. in this manner, *souler*, *bailler*, *pan*, &c.

CONTRACTION, in logic, a sort of reduction, whereby things are abridged or brought into less compass.

The use of contraction is to bring things, that before were too lax and diffusive, nearer together, so that their mutual relation may appear the more distinct, and that they may strengthen and support one another the better: thus, in the following argumentation, *Ex ista enunciatione, ergo nunc sum stans, sequitur ista enunciatio, ergo nunc sum existens: id est, ex sto sequitur sum.* Or in english thus, *From the proposition, therefore now I am standing, follows this other, therefore now I am existing*; which may be contracted into, *Standing implies existing.*

To this head are referred the arguments of poems and orations, the titles and summaries of chapters, *&c.*

CONTRACTION, in physics, the diminishing the extent or dimensions of a body, or the causing its parts to approach nearer to each other, in which sense it stands opposed to dilatation or expansion. See the article DILATATION and EXPANSION.

Hence contraction is frequently used by anatomists, to express the shrinking up of a fibre, or an assemblage of fibres, when extended. As paralytic disorders generally proceed from too great a laxness of the fibres in the part affected; so, on the other hand, convulsions and spasms proceed from a preternatural contraction of the muscles of the part convulsed. See the articles MUSCLE and FIBRE.

CONTRADICTION, a sort of direct opposition, wherein one thing is found directly contrary to another.

It is usually defined in the schools, *oppositio inter ens & non-ens, medio carens*; where by *ens & non-ens*, are meant any two extremes, one whereof affirms and the other denies; and it is said to be *medio carens*, in order the better to distinguish it from other species of oppositions: for the extremes here neither agree in subject, as is the case in form and privation, nor in essence and kind, as in contrariety. See the article CONTRARIETY.

CONTRADICTORY, in a legal sense, a person that has a title to contradict or gainsay.

An inventory of the goods of a minor should be made in presence of his guardian, or trustee, he being the legal contradictor. A decree against a farmer has no effect on the landlord, the first not being the legitimate contradictor.

CONTRADICTORY PROPOSITIONS, in logic,

gic, are ſuch as differ both in quality and quantity, one being univerſal, and the other particular, which conſtitutes the oppoſition of quantity; one affirmative and the other negative, which makes the oppoſition in quality: thus, A. *Every vine is a tree.* O. *Some vine is not a tree.* Theſe can never be both true, and both falſe at the ſame time. To this it is neceſſary that the one deny, and the other affirm, the ſame thing of the ſame ſubject, conſidered in the ſame circumſtances, every thing having always its own eſſence. This logicians expreſs by *affirmare & negare idem, de eodem ſecundum idem.* If two univerſals differ in quality, they are contradictory; as, A. *Every vine is a tree.* E. *No vine is a tree.* Thoſe can never be both true together, but they may be both falſe. If two particular propoſitions differ in quality only, they are ſub-contradictory; as, J. *Some vine is a tree.* O. *Some vine is not a tree.* Theſe may be both true together, but they can never be both falſe. There are likewiſe contradictory propoſitions on an individual, which are called ſingle contradictories; as, *Peter is juſt, Peter is not juſt.* Now in ſuch as theſe, Peter muſt be conſidered at the ſame time, without which they may be both true; ſince there was a time wherein Peter was juſt, and wherein he was not.

Seeming contradictories is when the members of a period quite diſagree in appearance and ſound, but perfectly agree and are conſiſtent in ſenſe: thus,

"Cowards die many times before their death;
"The valiant never taſte of death but once." *Shakeſpear.*

CONTRA-FISSURE, in ſurgery, a kind of fracture, or fiſſure, in the cranium, which ſometimes happens on the ſide oppoſite to that which received the blow; or, at leaſt, at ſome diſtance from it.

The moſt certain ſymptoms of a contra-fiſſure are vehement pains, vomitings, vertigo, noiſe in the ears, *&c.* If theſe happen, and no fracture or depreſſion of the cranium be found, where the wound was received, there is a ſuſpicion of a contra-fiſſure, eſpecially if the patient is apt to point to that part.

If the ſymptoms be by intervals, or not to a great degree, or there be reaſon to believe the fiſſure to have reached only thro' one of the tables, it is ſufficient to bore down to the diploë, and dreſs with balſamic medicines: but where any violent ſymptoms come on, which demonſtrate an extravaſation of blood in the cavity of the cranium, the trepan is to be called for without delay. See TREPAN.

CONTRA-HARMONICAL PROPORTION, in arithmetic, is that relation of three terms, wherein the difference of the firſt and ſecond is to the difference of the ſecond and third as the third is to the firſt: thus, 3, 5, and 6 are numbers contra-harmonically proportional, for 2 : 1 :: 6 : 3.

CONTRA-INDICATION, in medicine, an indication which forbids that to be done, which the main ſcope of a diſeaſe points out: as if, in the cure of a diſeaſe, a vomit was judged proper; if the patient be ſubject to a vomiting of blood, it is a ſufficient contra-indication as to its exhibition. See INDICATION.

CONTRALTO, in muſic, a term uſed by the Italians for two haut contres, becauſe they play contrary to each other. See the article HAUT CONTRE.

CONTRAMANDATIO *placiti*, in antient law-books, ſeems to ſignify a reſpiting, or giving the defendant further time to anſwer; or an imparlance, or countermanding what was formerly ordered.

CONTRAMANDATUM is ſaid to ſignify a lawful excuſe, which the defendant in any ſuit, by his attorney, alledges for himſelf, to ſhew that the plaintiff has no reaſon to complain.

CONTRAMURE, in fortification, is a wall built before another partition-wall, to ſtrengthen it, ſo that it may receive no damage from the adjacent buildings. See WALL and RAMPART.

CONTRAPOSITION, among logicians, the ſame with converſion. See the article CONVERSION.

CONTRARIETY, an oppoſition between two things, which imports their being contrary to one another; and conſiſts in this, that one of the terms implies a negation of the other, either mediately, or immediately; ſo that contrariety may be ſaid to be the contraſt, or oppoſition of two things, one of which imports the abſence of the other, as love and hatred.

CONTRARY, a poſitive oppoſite, which, ſubſiſting by turns in the ſame ſubject with its oppoſite, is as remote from it as poſſible, expels it, and is mutually expelled by it. Blackneſs and whiteneſs, cold and heat, are ſuch contraries. Hence qualities alone can, ſtrictly ſpeaking,

ing, be contraries; contrariety, in effect, only agreeing to qualities *per se*: to other things it agrees *per accidens*.

Contrary is, however, often used in a more extensive and general sense, that is, for any opposition or difference between the nature of things. It is a maxim in philosophy, that *contraria juxta se posita elucescunt*; i. e. that contraries set off one another.

CONTRARY, in rhetoric. F. de Colonia lays down three kinds of contraries in oratory, *viz.* adversatives, privatives, and contradictories. Adversatives are those that differ much in the same thing, as virtue and vice, war and peace, as in this of Cicero, *Si stultitium fugimus, sapientiam sequamur*; *& bonitatem, si malitiam*; and in this of Quintilian, *Malorum causa bellum est, erit emendatio pax*.

Drances, in Virgil, argues thus, *Nulla salus bello*; *pacem te poscimus omnes*. Privatives are habits, and their privations. Contradictories are those, one whereof affirms, and the other denies the same thing of the same subject.

CONTRAST, in painting and sculpture, expresses an opposition or difference of position, attitude, *&c.* of two or more figures contrived to make variety in a painting, *&c.* as where, in a groupe of three figures, one is shewn before, another behind, and another sideways, they are said to be in contrast.

The contrast is not only to be observed in the position of several figures, but also in that of the several members of the same figure: thus, if the right arm advance farthest, the right leg is to be hindermost; if the eye be directed one way, the arm to go the contrary way, *&c.* the contrast must be pursued even in the drapery.

CONTRAST, in architecture, is to avoid the repetition of the same thing, in order to please by variety.

CONTRATE-WHEEL, in watch-work, that next to the crown, the teeth and hoop whereof lie contrary to those of the other wheels, from whence it takes its name. See the article CLOCK.

CONTRAVALLATION, or *the line of* CONTRAVALLATION, in fortification, a trench guarded with a parapet, and usually cut round about a place by the besiegers, to secure themselves on that side, and to stop the sallies of the garrison. See the article FORTIFICATION.

It is without musquet-shot of the town, so that the army forming a siege, lies between the lines of circumvallation and contravallation. See the article CIRCUMVALLATION.

CONTRAVENTION, in law, a man's failing to discharge his word, obligation, duty, or the laws or customs of the place. The penalties imposed in cases of contravention only pass for comminatory. See the article COMMINATORY.

CONTRAVENTION, in a more limited sense, signifies the non-execution of an ordinance or edict. It is supposed to be the effect of negligence, or ignorance.

CONTRAYERVA, in the materia medica, the name by which the root of the dorstenia plant is known in the shops. See the article DORSTENIA.

It is an irregular shaped root, knotty and uneven on the surface; its usual length being from one inch to an inch and an half: it is to be chosen in large and fair roots, firm, sound, and of a good colour, full of knobs, not easily broken, and of a pungent acrid taste.

The antients knew nothing of this root. It is brought from New Spain, and is accounted an excellent sudorific: it strengthens the stomach, dispels flatulencies, and helps digestion. It is greatly used in fevers of many kinds, and is even by some recommended against the plague, and other malignant distempers, as one of the greatest known remedies, on account of its antiseptic virtue. It is given in powder and decoction; but with us principally in the form of the lapis contrayerva of the shops: its dose is from ten grains to half a dram.

The lapis contrayerva is composed of crab's claws, prepared, one pound; prepared pearls, and red coral, of each three ounces; powder of contrayerva, five ounces: this used to be wetted into a paste, and made up into balls, whence it has its name. But the new Dispensatory orders it to be kept in powder, under the name of pulvis contrayervæ compositus.

CONTRE, in heraldry, an appellation given to several bearings, on account of their cutting the shield contrary and opposite ways: thus we meet with contre-bend, contre-chevron, contre-pale, *&c.* when there are two ordinaries of the same nature opposite to each other, so as colour may be opposed to metal, and metal to colour. See COUNTER.

CONTRE-BARRE'. See the article COUNTER-BARRED.

CONTRE-CHANGE'. See COUNTER-CHANGED.

CONTRE-CHEVRONNE'. See the article COUNTER-CHEVRONED.

CONTRE-COMPONE'. See COUNTER-COMPONED.

CONTER-ERMINE', *&c.* See the article COUNTER-ERMINE, *&c.*

CONTRIBUTION, in a general ſenſe, the payment of each perſon's quota, or the ſhare he bears in ſome impoſition or common expence. Contributions are either voluntary, as thoſe of expences for carrying on ſome undertaking for the public intereſt; or involuntary, as thoſe of taxes and impoſts.

CONTRIBUTION, in a military ſenſe, an impoſition or tax paid by frontier-countries to an enemy, to prevent their being plundered and ruined by him.

CONTRIBUTIONE FACIENDA, in law, a writ that lies where tenants in common are bound to do the ſame thing, and one or more of them refuſe to contribute their part; as where they jointly hold a mill, *pro indiviſo*, and equally ſhare the profits thereof, if the mill falls to decay, and one or more of the perſons refuſe to contribute to its reparation, the reſt ſhall have this writ to compel them.

CONTRITION, in theology, a ſorrow for our ſins, reſulting from the reflexion of having offended God, from the ſole conſideration of his goodneſs, without any regard to the puniſhment due to the treſpaſs, and attended with a ſincere reſolution of reforming them.

The ſcripture never uſes this term in this ſenſe; but there are ſeveral paſſages which prove, that, without contrition, there is no repentance, and without repentance no remiſſion of ſins.

CONTROL, COMPTROL, or CONTROLE, is properly a double regiſter kept of acts, iſſues, *&c.* of the officers or commiſſioners in the revenue, army, *&c.* in order to perceive the true ſtate thereof, and to certify the truth, and the due keeping of the acts ſubject to the enregiſterment.

CONTROLLER, an officer appointed to control or overſee the accounts of other officers, and, on occaſion, to certify whether or no things have been controlled or examined.

In England we have ſeveral officers of this name, controller of the king's houſe, controller of the navy, controller of the cuſtoms, controller of the mint, *&c.*

CONTROLLER *of the hanaper*, an officer that attends the lord chancellor daily, in term and in ſeal-time, to take all things, ſealed in leather bags, from the clerks of the hanaper, and to mark the number and effect thereof, and enter them in a book, with all the duties belonging to the king and other officers, for the ſame, and ſo charge the clerk of the hanaper with them.

CONTROLLER *of the pipe*, an officer of the exchequer, that makes out a ſummons twice every year, to levy the farms and debts of the pipe. See the articles PIPE and EXCHEQUER.

CONTROLLERS *of the pells*, two officers of the exchequer, who are the chamberlain's clerks, and keep a control of the pell of receipts, and goings out.

CONTROVER, in law, a perſon, who, of his own head, invents and ſpreads falſe news.

CONTROVERSY, *controverſia*, in the civil law, a conteſt, or contention, between two or more perſons, concerning a certain property.

A man ſeems to occaſion a controverſy for property, when he prohibits any body from the poſſeſſion of his natural right.

CONTUMACY, in law, a refuſal to appear in court, when legally ſummoned; or the diſobedience to the rules and orders of a court, having power to puniſh ſuch offence.

In a criminal ſenſe, the contumacious is condemned, not becauſe the crime is proved on him, but becauſe he is abſent.

In England, contumacy is to be proſecuted to outlawry. In France, all contumacies are annulled, if the accuſed make his appearance in five years; if he die in that time, his relations are permitted to purge his memory.

CONTUSION, in medicine and ſurgery, any hurt of the body that is inflicted by a blunt inſtrument; and ſince, in this caſe, an infinite number of ſmall veſſels and fibres are injured and broken, a contuſion may properly be ſaid to be a congeries of an infinite number of ſmall wounds.

Contuſions may be diſtinguiſhed into ſeveral ſorts: 1. Some may be called ſimple contuſions; that is, when only the ſoft external parts are injured: ſome are compound, when the internal or bony parts alſo partake of the injury. 2. Some contuſions are ſlight, others of great conſequence: this depends upon the cauſe of the injury, and the nature of the part injured. 3. Laſtly, ſome contuſions are ſo circumſtanced, which is very wonderful, that

that the internal parts ſhall be violently affected, whilſt the external remain whole and unhurt.

When the ſmall veſſels and fibres have been broken by a contuſion, the fluids that were contained in them will be forced out: this will occaſion obſtructions, corruptions, inflammations, and ulcers, and even a gangrene, and ſeveral other miſchiefs, in proportion to the violence of the cauſe, and the nature of the part affected. When the external parts are contuſed, the ſkin at the ſame time remaining whole, the blood will ſtagnate under it, and occaſion red, black, and livid ſpots, &c. and if this happens near a bone, a caries. Contuſions may be examined by the eye; for when inflicted upon the external parts of the body, tumours are formed, and the injured part diſcoloured. When the contuſion is not within the reach of the eye, it muſt be felt for; an unnatural ſoftneſs of the limb, or a fluctuation of the extravaſated blood under the finger, will point out the injured part; pains and rigidity of the contuſed part will make the ſame diſcovery; and laſtly, a judgment may be formed of the degree of the contuſion, from the manner in, and the inſtrument with, which it was given. Slight contuſions are attended with little or no inconvenience, beſides diſcolouring the ſkin; and even that deformity is of a very ſhort duration; but in larger contuſions, where there is a great collection of ſtagnating blood in the muſcular parts, an abſceſs, gangrene, or ſphacelus will eaſily follow. Contuſions of the internal parts are extremely dangerous, in proportion to the violence of the hurt, and the conſequence of the part in performing the neceſſary offices of life. If inſtant death does not happen in this caſe, it is uſually attended with ſuch dangerous inflammations, that the patient conſumes away by degrees, and rarely eſcapes. Contuſions of the bones, particularly of their medulla, and of the joints or ligaments, are very dangerous, which will make it neceſſary to cut off the limb, to preſerve the life of a patient; but the contuſion of the cranium, from the vicinity of the brain, exceeds the reſt in the miſchievous conſequences which attend it: and laſtly, if the eye is contuſed, a tumour and inflammation will ſucceed, and frequently the loſs of ſight. The principal care in the cure of contuſions, ſhould be to divide the inſpiſſated fluids, and, at the ſame time, to prevent the parts, from ſuppurating and being afflicted with a gangrene. There are ſeveral methods ſucceſsfully uſed for the cure of ſlight contuſions, as when a tumour ariſes in the forehead from a fall, it may be cured by fomenting with warm wine, with the ſpirit of wine, by hungary water, or by applying cold vinegar, mixed with ſalt, to the part; or by clapping a broad piece of money, or a plate of milled lead upon the tumour, and faſtening it on with a very tight bandage. Larger contuſions may be dreſſed with decoctions ex ſcordio, ſabina, abrotano, vel ſeorſim, vel junctim, in vino vel aqua ſalſa. Great benefit will be found by applying a ſponge dipped in decocto ſaponis veneti, in urina recenti; or by the applications of aqua calcis cum admixto ſpiritu vini camphorato; vel acetum ſemine carvi coctum. Theſe remedies are to be applied warm.

When the contuſion is ſo violent that it is impoſſible to divide the ſtagnating fluids, and return them into the circulation, and the parts are haſtening to become gangrenous, they muſt be ſcarified without delay; which being done, there muſt be proper fomentations applied, before which the tumour muſt be rubbed well with hot cloths. See SCARIFICATION.

Where the contuſion is of any conſequence, the adminiſtration of internal medicines ſhould not be neglected, and theſe muſt be ſuch as promote the diſcharge of ſweat and urine. In plethoric habits a vein ſhould be opened, and that repeated as often as the patient is threatened with an abſceſs or gangrene.

The cure of the wound is eaſily performed, by filling it up with pledgets ſpread with a digeſtive medicine, and laying on a warm plaſter over the dreſſings. The patient muſt abſtain from fleſh and ſtrong liquors, living wholly upon broths and thin ſpoon-meat.

CONVAL-LILLY, *convallaria*, in botany. See the next article.

CONVALLARIA, in botany, a genus of the hexandria-monogynia claſs of plants, comprehending the conval-lilly, or lilly of the valley, *lilium convallium*, ſolomon's ſeal, polygonatum, the unifolium, and a ſpecies of ſmilax. In the lilly of the valley, the flower-petal, which is ſingle in all of them, is globoſe, campanulated, and patent: in ſolomon's-ſeal, it is tubulato-campanulated, and pointed: in the unifolium, the third part of the fructification is wanting: and in the

the smilax the flower-petal is divided into six very acute and patent segments: in all of them the fruit is a trilocular globose berry, containing single and roundish seeds.

CONVENT, in church-history, the same with monastery. See MONASTERY.

CONVENTA PACTA. See the article PACTA CONVENTA.

CONVENTICLE, a private assembly or meeting, for the exercise of religion. The word was first attributed as an appellation of reproach to the religious assemblies of Wickliffe, in this nation, in the reigns of Edward III. and Rich. II. and is now applied to illegal meetings of non-conformists. There were several statutes made in former reigns, for the suppression of conventicles; but by 1 Will. and Mary, it is ordered, that dissenters may assemble for the performance of religious worship, provided their doors be not locked, barred, or bolted.

CONVENTION, a treaty, contract, or agreement between two or more parties. Every convention among men, provided it be not contrary to honesty, and good manners, produces a natural obligation, and makes the performance a point of conscience. Every convention has either a name and a cause of consideration; or it has none; in the first case it obliges civilly and naturally, in the latter only naturally. See the article CONTRACT.

CONVENTION, in antient and modern pleadings, is used for a covenant, or agreement; as in the book of rolls of the manor of Hatfield, in Yorkshire, we have a record of a pleasant convention in the reign of Edward III. between Robert de Ruderham and John de Ithen, the latter of whom sold the devil in a string, for three pence half penny, to the former, to be delivered the fourth day after the convention: when the purchaser making his demand, the seller refused to give him livery; but it appearing to the court that such a plea does not lie among christians, the parties were adjourned to hell for judgment.

CONVENTION is also a name given to an extraordinary assembly of parliament, or the states of the realm, held without the king's writ; as was the convention of estates, who, upon the retreat of king James II. came to a conclusion that he had abdicated the throne, and that the right of succession devolved to king William and queen Mary; whereupon their assembly expired as a convention, and was converted into a parliament.

CONVENTIONE FACIENDA, in law, a writ of covenant, which lies in case of any breach of contract, to oblige the party to stand to his agreement.

CONVENTUAL, in general, denotes something belonging to a convent, or monastery; thus, monks who actually reside in a convent, are called conventuals, in contradistinction to those who are only guests, or in possession of benefices depending on the house.

CONVERGING, or CONVERGENT LINES, in geometry, are such as continually approach nearer one another; or whose distance becomes still less and less. These are opposed to divergent lines, the distance of which become continually greater: those lines which converge one way, diverge the other.

CONVERGING HYPERBOLA, is one whose concave legs bend in towards one another, and run both the same way. See the articles HYBERBOLA and CURVE.

CONVERGING RAYS, in optics, those rays that, issuing from divers points of an object, incline towards one another, till, at last, they meet and cross, and then become diverging rays.

Thus the rays A B and C B (plate L, fig. 2.) converge till they come to the point B; and then they diverge, and run off from one another, in the lines B E, B F.

CONVERGING SERIES. See the article SERIES.

CONVERSE, in mathematics. One proposition is called the converse of another, when, after a conclusion is drawn from something supposed in the converse proposition, that conclusion is supposed; and then, that which in the other was supposed, is now drawn as a conclusion from it: thus, when two sides of a triangle are equal, the angles under these sides are equal; and, on the converse, if these angles are equal, the two sides are equal. See the article TRIANGLE.

CONVERSE DIRECTION, in astrology, is used in opposition to direct direction; which last carries the promoter to the significator, according to the order of the signs; but the former carries it from east to west, contrary to the order of the signs.

CONVERSION, in a moral sense, implies a repentance for a temper and conduct unworthy our nature, and unbecoming our obligations to its author, and a resolution to act a wiser and a better part for the future.

CONVERSION, in rhetoric, *&c.* is underſtood of arguments which are returned, retorted, and ſhewn on oppoſite ſides, by changing the ſubject into the attribute, and the attribute into the ſubject. See the article ATTRIBUTE, *&c.*

CONVERSION, in war, a military motion whereby the front of a battalion is turned where the flank was, in caſe the battalion is attacked in the flank. See the article QUARTER-WHEELING.

As this may often be the caſe in action, this motion is accounted a moſt uſeful and neceſſary one.

CONVERSION *of equations*, in algebra, is when the quantity ſought, or any part or degree thereof, being in fractions, the whole is reduced to one common denomination, and then omitting the denominators, the equation is continued in the numerators only. Thus ſuppoſe $a-b=\frac{aa+cc}{d}+b+b$; multiply all by d, and it will ſtand thus, $da-dc=aa+cc+db+db$. See EQUATION.

CONVERSION *of propoſitions*, in logic, the changing of the ſubject into the place of the prædicate, and the prædicate into the place of the ſubject; and yet always retaining the ſame quality of both propoſitions: as, *Every right-lined triangle has the ſum of its angles equal to two right ones: Every right-lined figure, that has the ſum of its angles equal to two right ones, is a triangle.*

Converſion is uſually defined a due change of the order of the extremes: *i. e.* under ſuch a habitude and coherence, with reſpect to each other, that the one is rightly inferred from the other.

CONVERT, a perſon who has undergone converſion. See the article CONVERSION.

Convert is more frequently uſed in reſpect of changes from one religion, or religious ſect, to another.

Theſe, with regard to the religion they have relinquiſhed, are denominated apoſtates, and converts only with relation to the religion turned to. Henry III. built a houſe in London, for ſuch Jews as turned chriſtians, called *Domus converſorum*; where the proſelytes, being obliged to regular cuſtoms, had a handſome ſupport allowed them for life.

CONVERTS, in a monaſtic ſenſe, are lay friers, or brothers, admitted for the ſervice of the houſe, without orders, and not allowed to ſing in the choir.

CONVEX, an appellation given to the exterior ſurface of gibbous or globular bodies, in oppoſition to the hollow inner ſurface of ſuch bodies, which is called concave: thus we ſay, a convex frieze, lens, mirror, ſuperficies, *&c.* See the articles FRIEZE, LENS, *&c.*

CONVEXITY, that configuration or ſhape of a body, on account of which it is denominated convex. See CONVEX.

CONVEYANCE, in law, a deed or inſtrument that paſſes land, *&c.* from one perſon to another.

The moſt uſual conveyances are deeds of gift, bargain and ſale, leaſe and releaſe, fines and recoveries, *&c.* The words *give and grant*, are neceſſary in a conveyance at common law: but though ſome maintain that conveyances ſhall operate according to the words; yet, of late, the judges have a greater regard to the paſſing of the eſtate, than to the manner by which it is paſſed.

CONVICT, in common law, a perſon that is found guilty of an offence by the verdict of a jury.

The law implies that there muſt be a conviction before puniſhment for any offence, though it be not mentioned in any ſtatute. On a joint indictment, or information, ſome of the defendants may be convicted and others acquitted.

CONVICT RECUSANT, a perſon who has been legally preſented, indicted, and convicted, for refuſing to come to church to hear the common prayer, according to the ſtatutes 1 and 23 Eliz. and 3 Jac. I.

CONVICTION, in theology, expreſſes the firſt degree of repentance, wherein the ſinner becomes ſenſible of his guilt, of the evil nature of ſin, and of the danger of his own ways. See CONTRITION.

CONVICTION, in law. See CONVICT.

CONVIVIUM, BANQUET, in our old cuſtoms, a kind of tenure whereby the tenant was obliged to provide an entertainment for his lord, once, or oftener, every year. It correſponded with the procuration of the clergy. See PROCURATION.

CONULUS, in the hiſtory of ſhell-fiſh, a name by which ſome call thoſe echini which are of a conical ſhape: they are frequently found foſſile, in which ſtate they are known by the names of ſcolopendritæ, bufonitæ, and pileæ; in engliſh cap-ſtones.

CONVOCATION, an aſſembly of the clergy of England, by their repreſentatives, to conſult of eccleſiaſtical matters. It is held during the ſeſſion of parliament, and conſiſts of an upper and a lower houſe. In the upper ſit the biſhops, and

in

in the lower the inferior clergy, who are repreſented by their proctors, conſiſting of all the deans and archdeacons, of one proctor for every chapter, and two for the clergy of every dioceſe, in all one hundred and forty-three divines, *viz.* twenty-two deans, fifty-three archdeacons, twenty-four prebendaries, and forty-four proctors of the dioceſan clergy. The lower houſe chooſes its prolocutor, whoſe buſineſs it is to take care that the members attend, to collect their debates and votes, and to carry their reſolutions to the upper houſe. The convocation is ſummoned by the king's writ, directed to the archbiſhop of each province, requiring him to ſummon all biſhops, deans, archdeacons, *&c.*

The power of the convocation is limited by a ſtatute of Henry VIII. They are not to make any canons or eccleſiaſtical laws, without the king's licence; nor when permitted to make any, can they put them in execution, but under ſeveral reſtrictions. They have the examining and cenſuring all heretical and ſchiſmatical books and perſons, *&c.* but there lies an appeal to the king in chancery, or to his delegates. The clergy in convocation, and their ſervants, have the ſame privileges as members of parliament. See PARLIAMENT.

CONVOLUTION, a winding motion, proper to the trunks of ſome plants, as the convolvulus or bindweed, the claſpers of vines, bryony, *&c.*

CONVOLVULUS, BINDWEED, in botany, a genus of the pentandria-monogynia claſs of plants, the corolla of which conſiſts of a ſingle, patent, campanulated petal, plicated and very lightly divided at the rim: the fruit is a capſule, of a roundiſh figure, contained within the cup, and formed of one, two, or three valves: the ſeeds are two, roundiſh, and often acute: the corolla is uſually cut in ten places, but there are ſpecies in which theſe crenæ are but five. See plate LI. fig. 1.

To this genus belong ſcammony, mechoacan, jalap, and turbith; for the virtues of which ſee the articles SCAMMONY, MECHOACAN, *&c.*

As to the bindweeds, properly ſo called, they are cathartic, and ſaid to be good for preventing abortion.

This plant has the reputation of purging off bilious, acrid, and ſerous humours: the root is cathartic. The women uſe a decoction of this plant as a preſervative againſt miſcarriages: a decoction of it is alſo recommended as a mild evacuant of bile.

CONVOY, in marine affairs, one or more ſhips of war, employed to accompany and protect merchant-ſhips, and prevent their being inſulted by pirates, or the enemies of the ſtate in time of war.

CONVOY, in military matters, a body of men that guard any ſupply of men, money, ammunition, or proviſions, conveyed by land into a town, army, or the like, in time of war.

CONVULSION, *ſpaſmus*, in medicine, a preternatural and violent contraction of the membranous and muſcular parts, ariſing from a ſpaſmodic ſtricture of the membranes ſurrounding the ſpinal marrow, and the nerves diſtributed from it, and an impetuous influx of the nervous fluid into the organs of motion. See the article SPASM.

Convulſions attack the patient variouſly; for in ſome they happen ſuddenly, without any ſigns of the approaching diſorder; whilſt in others, they may be foreſeen by various ſigns. During the convulſive paroxyſm, the limbs are ſurpriſingly agitated; ſometimes the arms are ſo retorted towards the back, that the patient ſeems to ſit upon them; ſometimes they beat the air: at other times, the legs are drawn into various directions; ſometimes they ſtamp: ſometimes the ſpine of the back is incurvated ſo as to form an arch, whilſt the breaſt is raiſed: and at other times the whole body is as ſtiff as a ſtone. Theſe agitations ſeize many in the very poſture in which they are, without throwing them on the ground; whilſt others, like epileptic patients, fall ſuddenly down, weep, laugh, grind their teeth, gape, hang out their tongue, and are vertiginous.

After the paroxyſm many patients retain an incredible languor of the whole body, many fall into deliriums, and a profound ſleep; in others, the diſorder is terminated by eructations, an exploſion of flatulencies, vomiting, a copious diſcharge of the lymph, *&c.* Thoſe are moſt ſubject to convulſions, whoſe nervous ſyſtems are either naturally, or by any other cauſe, weak, eſpecially if their juices be impure. Among the mediate cauſes which diſpoſe to this conſtriction of the ſpinal marrow, the moſt conſiderable are violent paſſions, eſpecially if the patient be expoſed to cold, or commits any error in regimen.

Though

Though convulsions are very terrible, they are not suddenly mortal: when they are recent, the patient young, and the constitution sound, an easy and short cure is to be hoped for.

In the cure of convulsive motions, we are first to correct the material causes which support the disorder; prepare them for an elimination, and commodiously evacuate them: then the violent and irregular commotions of the nervous parts must be allayed, and the nervous system corroborated, to prevent a relapse: the cure is not to be obtained by a great variety of drastic remedies; but rather by mild medicines, and such as are friendly to nature. If the disorder arises from a redundancy of humours, or a thickness of the blood, Hippocrates advises venesection, either in the foot or arm, to be used; or scarifications to be interposed: but these motions are rarely removed without a proper air, exercise, and regimen. Warm baths for the feet, prepared of river water, and chamomile-flowers, have a singular efficacy; and also large draughts of cold simple water. If convulsions arise from excess of venery, the patient is by all means to abstain from any thing that produces commotions. If they arise from a suppression of the menses, *&c.* they must be removed by recalling these evacuations. See the next article.

CONVULSIVE, in medicine, a term applied to those motions which naturally should depend on the will, but are produced involuntarily by some external cause, as a contraction of the muscles, *&c.* See the preceding article.

Hence convulsive may be applied to any thing that occasions a convulsion, of which there are a great variety. Wounds of the nerves are said to be convulsive: white hellebore is convulsive; and the cramp is a convulsive contraction of some muscular part of the body. Children are much liable to convulsive disorders, arising from various causes, as repletion, curdling of the milk in the stomach or intestines, worms, *&c.* St. Vitus's dance is a sort of convulsive disorder boys and girls are subject to: it discovers itself by a kind of lameness: this disorder is by some supposed to be a paralytic one, and to proceed from a relaxation of the muscles, which, being unable to perform their functions in moving the limbs, shake them irregularly by jerks. This disorder, as several convulsive disorders do, and particularly epilepsies, keeps pace with the phases of the moon, or with the tides. Purging and blood-letting are recommended according as the age of the patient will bear it, for a cure in this disease. Convulsive motions, occasioned by worms, are to be cured by destroying the worms: for the convulsive asthma, see the article ASTHMA.

CONWAY, a market town of Caernarvonshire, in north Wales, situated near the mouth of a river of the same name, fifteen miles west of St. Asaph: west long. 3° 50′, and north lat. 53° 20′.

CONYZA, FLEA-BANE, in botany, a genus of the syngenesia polygamia-superflua class of plants, the compound flower of which is tubulose, consisting both of hermaphrodite and female ones: these last have no flower-petals; but the hermaphrodite ones consist of one infundibuliform petal, divided into five patulous segments at the limb: the stamina are five very short capillary filaments: the seeds are solitary, oblong, and crowned with simple downy filaments, and stand in the cup.

The common flea-bane is recommended in the jaundice, to promote the menses, and in the strangury. Some also make an ointment of its leaves and root, which is said to cure the itch.

CONZA, a town of the kingdom of Naples, in Italy, situated in the farther Principate, on the river Offanto, fifty miles south-east of the city of Naples: east long. 16°, north lat. 41°.

It is the see of an archbishop.

COOK, a person whose business it is to dress and deliver out victuals.

A ship's cook has an assistant, commonly denominated the cook's mate.

COOK-ROOM, in a ship, the place where victuals are dressed.

The cook-room in ships is sometimes situated in the hold, but generally in the forecastle, where there are furnaces contrived, and other necessaries for the purpose. See the article SHIP.

COOLER, among brewers, distillers, *&c.* a large vessel wherein certain liquors are cooled, after having been boiled.

COOLERS, in medicine, those remedies, which affect the organs of feeling with an immediate sense of cold, being such as have their parts in less motion than those of the organs of feeling; as fruits, and all acid liquors: or they are such as, by a particular viscidity, or grossness of parts, give the animal fluids a greater consistency than they had before, and consequently retard their motion; having less of that intestine force on which their heat depends.

Of

Of this fort are cucumbers, and all fubftances producing vifcidity.

We find little prefcribed in the fhops under the intention of coolers, but great variety may be made by the good houfewife: fuch are lemonade with wine, wine and water, and feveral juleps, confifting of fyrup of lemons or oranges, with wine, rofe-water, and the like. Several cooling decoctions may alfo be made of lemons, pearl-barley, liquorice, *&c.* in fpring water, adding a little cochineal, fugar, or rofe-water.

COOM, a term applied to the foot that gathers over an oven's mouth; alfo for that black, greafy fubftance, which works out of the wheels of carriages.

Coom or foot is often ufed in medicine, infufed in wine, with other ingredients, as an antihyfteric, and againft palpitations of the heart, *&c.* The fpirit of foot is alfo ufed for the fame purpofes, and is accounted of great ufe in cephalic cafes.

COOMB, or COMB *of corn*, a dry meafure, containing four bufhels, or half a quarter. See the article MEASURE.

COOMINGS, or COAMINGS. See the article COAMINGS.

COOPER, in geography, the name of a river in Carolina, in north America.

COOPER, on board a fhip, he that looks to the cafks, and all other veffels for beer, water, or any other liquor. He has a mate under him.

CO-ORDINATE, fomething of equal order, rank, or degree with another. See the article ORDER.

CO-ORDINATION, in regard of caufe, imports an order of caufes, wherein a variety of the fame kind, order and tendency concur, in the production of the fame effect.

COOS, or LONGO, an ifland of the Archipelago, fituated near the fouth-weft coaft of Natolia, and fubject to the Turks: eaft long. 27° 30′, north lat. 37°.

COPAIBA, or *balfam of* COPAIBA. See the article BALSAM.

COPAL, in the materia medica, is a true refin, being inflammable and foluble in oil, tho' it, as well as the anime, and fome other bodies of this clafs, is mifcalled a gum.

The true copal is a refin of a confiderably firm texture, brought to us from South America in large maffes, or in fingle lumps or drops. The copal greatly refembles amber in appearance; it is of a fragrant fmell; its tafte is fubaftringent and fomewhat aromatic. The Americans ufe copal as they do anime, for diforders of the head, by way of fumigations. We do not ufe it at all in medicine, but an excellent varnifh is made of it.

COPARCENARY-SHARE, in law, that of coparcenars. See the next article.

COPARCENARS, otherwife called *parceners*, fuch as have equal portions in the inheritance of their anceftor.

Coparceners are fuch, either by law, or cuftom: coparceners by law are the female iffue, who, in default of heirs male, come equally to the lands of their anceftor. They may be obliged to make partition of the lands thus defcended, but fhould be made by coparceners at full age. Coparceners by cuftom, are thofe who, by fome cuftom of the country, challenge equal parts in fuch lands, as in Kent, by the cuftom of gavel-kind.

COPE, among ecclefiaftical writers, an ornament ufually worn by chantors and fubchantors, when they officiated in the church folemnity. It is alfo worn by romifh bifhops, and other ordinaries; and reaches from the fhoulders to the feet.

COPE, among miners, a duty of fix-pence for every load of ore. See LOAD.

COPEL, or COPPEL. See COPPEL.

COPENHAGEN, the capital of the kingdom of Denmark, fituated on the eaftern fhore of the ifland of Zealand, upon a fine bay of the Baltic fea, not far from the ftrait called the Sound: eaft long. 13°, and north lat. 55° 30′.

It is a ftrong town, about five miles in circumference, fortified after the modern way; and the harbour is furrounded by forts and platforms, its entrance being fo narrow, that only one fhip can pafs in at a time. It has an univerfity and military academy, and is remarkable for one of the fineft mufeums, or collection of curiofities, in Europe.

COPERAS, or COPPERAS, in natural hiftory. See the article COPPERAS.

COPERNICAN, in general, fomething belonging to Copernicus. Hence,

COPERNICAN-SYSTEM, or HYPOTHESIS, that fyftem of the world, wherein the fun is fuppofed at reft in the center, and the planets, with the earth, to move in ellipfes round him.

The fun and ftars are here fuppofed at reft, and that diurnal motion which they appear to have from eaft to weft, is imputed to the earth's motion from weft to eaft, round its axis. See the articles EARTH and PLANETS.

This ſyſtem was received of old by Philolaus, Ariſtarchus, and Pythagoras, from which laſt it had the name of the pythagoric ſyſtem: it was alſo held by Archimedes; but after him it became neglected, and even forgotten for many ages, till it was revived by Copernicus, about the year 1500, and from him named the copernican ſyſtem.

According to this hypotheſis, the ſun is ſuppoſed very near the center of gravity of the whole ſyſtem, and in the common focus of every one of the planetary orbits: next him mercury performs his revolution around him; next mercury is the orbit of venus; and next to venus, our earth, with its attendant or ſecondary the moon, performing a joint courſe, and in their revolution meaſuring out the annual period. Next the earth is mars, the firſt of the ſuperior planets; next him jupiter, and laſt of all ſaturn. See plate L. fig. 3.

Theſe and the comets are the conſtituent parts of the ſolar ſyſtem, which is now received and approved as the only true one, for the reaſons following. See the articles COMET, VENUS, MARS, *&c.*

1. It is moſt ſimple, and agreeable to the tenor of nature in all her actions; for by the two motions of the earth, all the phænomena of the heavens are reſolved, which, by other hypotheſes, are inexplicable, without a great number of other motions, contrary to philoſophical reaſonings. See the articles PTOLEMAIC and TYCHONIC.

2. It is more rational to ſuppoſe that the earth moves round the ſun, than that the huge bodies of the planets, the ſtupendous body of the ſun, and the immenſe firmament of ſtars, ſhould all move round the inconſiderable body of the earth, every twenty-four hours.

3. But that harmony which, upon this ſuppoſition, runs through the whole ſolar ſyſtem, wonderfully confirms this hypotheſis, *viz.* that the motions of all the planets, both primary and ſecondary, are governed and regulated by one and the ſame law, which is, that the ſquares of the periodical times of the primary planets, are to each other as the cubes of their diſtances from the ſun; and likewiſe the ſquares of the periodical times of the ſecondaries of any primary, are to each other as the cubes of their diſtances from that primary. Now the moon, which, in the copernican ſyſtem, is a ſecondary of the earth, in the other hypotheſis is a primary one; and ſo the rule cannot take place, becauſe the periodical time, conſidered as that of a primary one, does not agree therewith. See the article PERIOD, *&c.*

4. Again, this ſingle conſideration, Mr. Whiſton thinks enough to eſtabliſh the motion of the earth for ever, *viz.* If the earth does not move round the ſun, the ſun muſt move, with the moon, round the earth. Now the diſtance of the ſun, to that of the moon, being as 10,000 to 46, and the moon's period being leſs than 28 days, the ſun's period would be found no leſs than 242 years, whereas, in fact, it is but one year.

5. The ſun is the fountain of light and heat, which it irradiates through all the ſyſtem, and, therefore, it ought to be placed in the center, ſo that the planets may, at all times, have it in an uniform and equable manner.

6. For, if the earth be in the center, and the ſun and planets revolve about it, the planets would then, like the comets, be ſcorched with heat, when neareſt the ſun, and frozen with cold in their aphelia, or greateſt diſtance, which is not to be ſuppoſed.

7. If the ſun be placed in the center of the ſyſtem, we have then the rational hypotheſis of the planets being all moved about the ſun, by the univerſal law or power of gravity ariſing from his vaſt body, and every thing will anſwer to the laws of circular motion and central forces; but otherwiſe, we are wholly in the dark, and know nothing of the laws and operations of nature.

8. But happily we are able to give not only reaſons, but demonſtrative proofs, that the ſun does poſſeſs the center of the ſyſtem, and that the planets move about it at the diſtance and in the order aſſigned in this and in other places. See the article DISTANCE. and opposition

The firſt is, that mercury and venus are ever obſerved to have two conjunctions with the ſun, but no oppoſition, which could not happen unleſs the orbits of theſe planets lay within the orbit of the earth.

9. The ſecond is, that mars, jupiter, and ſaturn, have each their conjunctions and oppoſitions to the ſun alternate and ſucceſſively, which could not be, unleſs their orbits were exterior to the orbit of the earth.

10. In the third place, the greateſt elongation or diſtance of mercury from the

fun, is about 28°, and that of venus 47°; which anfwers exactly to their diftance in this fyftem, though in the ptolemean fyftem they might, and would, fometimes, be feen 180 from the fun, *viz.* in oppofition to him.

11. Fourthly, in this difpofition of the planets, they will all of them be fometimes much nearer to the earth than at others; the confequence of which is, that their brightnefs and fplendor, and alfo their apparent diameters, will be proportionally greater at one time than another; and this we obferve to be true every day. Thus the apparent diameter of venus, when greateft, is near 66″, but when leaft, not more than 9″ and a half; of mars, when greateft, it is 21″, but when leaft, no more than 2″ and a half; whereas, by the ptolemean hypothefis, they ought always to be equal.

12. The fifth is, that when the planets are viewed with a good telefcope, they appear with different phafes, or with different parts of their bodies enlightened. Thus venus is fometimes new, then horned, and afterwards dichotomized, then gibbous, afterwards full, and fo increafes and decreafes her light in the fame manner as the moon, and as the copernican fyftem requires.

13. The fixth is, that the planets, all of them, do fometimes appear direct in motion, fometimes retrograde, and at other times ftationary. Thus, venus, as fhe paffes from her greateft elongation weftward, to her greateft elongation eaftward, will appear direct in motion, but retrograde as fhe paffes from the latter to the former; and when fhe is in thofe points of greateft diftance from the fun, fhe feems for fome time ftationary. All which is neceffary upon the copernican hypothefis, but cannot happen in any other.

14. The feventh is, that the bodies of mercury and venus, in their lower conjunctions with the fun, are hid behind the fun's body, and in the upper conjunctions are feen to pafs over the fun's body, or difk, in form of a black round fpot, which is neceffary in the copernican fyftem, but impoffible in the ptolemean fyftem.

15. The eighth, and laft, is, that the times in which thefe conjunctions, oppofitions, ftations, and retrogradations of the planets happen, are not fuch as they would be were the earth at reft in its orbit, but precifely fuch as would happen were the earth to move, and all the planets in the periods affigned them; and therefore this, and no other, can be the true fyftem of the world.

COPERNICUS, the name of an aftronomical inftrument, invented by Mr. Whifton, to exhibit the motion and phænomena of the planets, both primary and fecondary. It is built upon the copernican fyftem, and for that reafon called by this name. It confifts of feveral concentrical circles of wood, upon which are infcribed numbers, transferred hither from the aftronomical tables, by the various difpofitions of thefe circles, which are made fo as to flide within each other, by which queftions are folved fo as to fave long calculations. To exhibit eclipfes there is a particular apparatus, confifting of a terreftrial globe, fo difpofed, as that, being turned round its axis, the light of the fun, or a candle projected through a glafs plane, marked out into concentric circles, expreffes the digits of the eclipfe: and thus is the path of the eclipfe, with its degree or quantity in any part of the path, reprefented with great accuracy. The inventor of this inftrument has wrote a treatife purpofely to explain it.

COPHTS, Cophti, or Copts, a name given to fuch of the chriftians of Egypt, as are of the fect of jacobites.

The cophts have a patriarch, who is ftiled the patriarch of Alexandria, having eleven or twelve bifhops under him, but no archbifhop. The reft of the clergy, whether fecular or regular, are of the order of St. Antony, St. Paul, and St. Macarius, each of whom have their monafteries. The cophts have feven facraments, *viz.* baptifm, the eucharift, confirmation, ordination, faith, fafting, and prayer. They deny the holy ghoft to proceed from the fon; they only allow of three oecumenical councils, that of Nice, Conftantinople and Ephefus. They only allow of one nature, will, and operation in Jefus Chrift, after the union of the humanity with the divinity. With regard to their difcipline, they circumcife their children before baptifm; they ordain deacons at five years of age; they allow of marriage in the fecond degree, and put away their wives, and efpoufe others, while the firft are living; they forbear to eat blood, and believe in a baptifm by fire, which, according to fome, they confer by applying a red hot iron to their cheeks or forehead.

COPHTIC, or Coptic language, is that ſpoke by the Cophts, being the antient language of the Egyptians, intermixed with the greek, and the characters of it being thoſe of the greek.

The antient coptic is now a dead language, to be met with no where but in books, and thoſe only tranſlations of the ſcriptures, and of eccleſiaſtical offices, or others that have a relation thereto; the language now uſed over all the country being that of the arabic.

Cophtic monks, religious, among the chriſtians of Egypt, who have the higheſt veneration for a monaſtic life, conſidering it as the philoſophy of the law of Jeſus Chriſt, the monks as terreſtrial angels, or celeſtial men. They are obliged to part with their poſſeſſions, to renounce marriage for ever, to live in deſarts, to be cloathed in wool, and to eat no meat.

COPIA *libelli deliberanda*, a writ that lies where a perſon cannot get the copy of a libel from a judge of the ſpiritual court.

COPIAPO, a port-town of Chili, in South America, ſituated on the Pacific ocean at the mouth of a river of the ſame name, in 75° weſt long. and 25° ſouth lat.

COPIATA, a man of a particular order in the primitive church, whoſe buſineſs it was to bury the dead, by preparing the graves, wrapping up the dead bodies, *&c.* being accounted a work of piety, wherefore the copiatæ were conſidered as having a relation to the clergy.

COPING, or Copping *of a wall*, in architecture, the top or covert of a wall, made ſloping, to carry off the wet.

Coping *over*, in carpentry, a ſort of hanging over, not ſquare to its upright, but bevelling on its under ſide, till it end in an edge.

COPIVI, or *balſam of* Copivi. See the article Balsam.

COPPEL, Copel, or Cuppel, a chemical veſſel made of earth, pretty thick, and of the form of a platter or diſh. See plate LIII. fig. 3.

It ſuſtains the higheſt degree of fire, and retains all fuſed metals: but in it all the foſſile portions of any metal, when mixed with fuſed lead, are carried off, except gold and ſilver, which are left behind in ſmall globules. See Assaying.

This veſſel has a ſmall cavity, which is a kind of obtuſe, ſpherical ſegment, with a canal at its margin, through which the metal examined may be the more commodiouſly poured out. The external ſurface of the coppel is ſomewhat like a truncated cone, that it may ſtand the more ſecurely. It may be made of different bulks, according to the quantity of metal to be tried; and may be made either of ſome proper earth, or of aſhes obtained from the calcined bones almoſt of any animals, except thoſe of hogs; for the coppels made of theſe, beſides lead and other foſſils, alſo abſorb ſome parts of gold and ſilver. The aſhes of calcined plants are alſo proper for this purpoſe, provided their ſalts are well waſhed out of them. Plaiſter alſo of ſome kinds, Cramer thinks preferable to any other materials for this purpoſe: the ſmaller bones of calves, oxen, ſheep and horſes are moſt commonly uſed, and theſe are the more eaſily calcined the longer they have been expoſed to the injury of the weather. A ſmall quantity of the aſhes of theſe bones, after being calcined to the higheſt degree of whitene/s, is to be triturated in a mortar, then put into an earthen veſſel, and a ſecond time calcined in a ſtrong fire, for ſome hours: afterwards the aſhes muſt be waſhed with water, and levigated to a fine powder, which, when moiſtened by water and the white of an egg, till the maſs coheres, is to be excavated with a peſtil; then a ſolution of the powder of vitriol may be ſprinkled over the ſurface, and the coppel laid by in a dry place, after the inequalities, protuberating on the upper margins and the bottoms are cut off with a ſharp knife.

COPPELLING, or Cupelling, in chemiſtry, is the putting metallic ſubſtances into a coppel, or covered veſſel, made of bone-aſhes, and ſet in a naked fire, to try what gold or ſilver they will afford. See the article Assaying.

COPPER, *cuprum*, conſtitutes a diſtinct genus of metals, being next to iron in ſpecific gravity, but lighter than gold, ſilver, or lead.

Copper is not unfrequently found native and malleable, ſometimes in ſmall and ſlender fibres, and ſometimes in little globular and irregular maſſes. However it is moſt frequently found in the ſtate of ore, ſometimes blended with the ſtrata of ſtones, where it diſcovers itſelf in blue or green effloreſcences. The green and blue ochers alſo are a ſort of ores of copper, and the pyritæ and marcaſites frequently contain large quantities of this metal. There is alſo a rich kind of copper-ore, of a reddiſh-grey colour; and another of a duſky purple, or blackiſh colour.

co'our. But besides all these, there are two other appearances of copper-ore, known by the names of lapis lazuli, and the turcois, or turquoise. See the article LAZULI, &c.

In Germany and Sweden there are very good mines of copper-ore, and we have some in England little inferior to the finest swedish ones.

In order to discover whether the pyrites contains any copper, let it be roasted in an open fire, and a solution made by pouring upon it a quantity of warm water: into this solution let iron plates, perfectly clean and free from grease, be immersed; and if the pyrites contains any copper, it will stick to these iron plates, in form of a fine yellow powder.

As to the method of obtaining copper from the ore, this last being previously washed and powdered, is smelted by means of a black flux, and the metal is found at the bottom of the vessel when cold, in the form of a solid and malleable mass; which may be farther refined, by repeating the operation.

Physicians condemn the internal use of copper in any form; all its preparations being accounted poisonous. However, as it is a very strong emetic, in cases of poison, where vomits are highly necessary to throw it up again, nothing is more efficacious: for it frequently happens that even foods, by standing long in copper vessels, acquire an emetic quality, which has very bad effects; in which case milk, oil, and butter are accounted good antidotes.

Preparations of COPPER, are, 1. Flowers of copper, *floris æris*, said to be a medicine much used externally amongst the antients, but now disregarded; and it is prepared by melting a quantity of common, pure copper, and throwing water upon it, just as it begins to cool, which makes the whole mass of the metal break into small granules, called *flores æris*. 2. Verdigrease, *ærugo æris*. 3. Calcined copper, or *æs ustum*. 4. Flakes, or scales of copper, *squamæ æris*, being a preparation of much the same nature with calcined copper. 5. The blue eye-water, *aqua sapphirina*. And, 6. Mr. Boyle's *ens veneris*: each of which articles see under their several heads.

COPPERAS, a name given to the factitious green vitriol. See VITRIOL.

The english copperas is made at Deptford, in the following manner, from pyritæ. See the article PYRITÆ. A heap of these stones, two or three feet thick, is laid in a bed well rammed, where being turned once in six months, in five or six years, by the action of the air and rain, they begin to dissolve, and yield a liquor which is received in pits, and thence conveyed into a cistern, in a boiling house. The liquor at length being pumped out of the cistern into a leaden boiler, and a quantity of iron added thereto, in two or three days the boiling is compleated; care having been taken all along to supply it with fresh quantities of iron, and to restore the boiling, whenever it seems to abate. When boiled sufficiently it is drawn off into a cooler, with sticks across, where it is left 14 or 15 days to shoot. The uses of copperas are numerous. It is the chief ingredient in the dying of wool, cloths, and hats, black; in making ink, in tanning and dressing leather, &c. and from hence is prepared oil of vitriol, and a kind of spanish brown for painters. In medicine, it is rarely prescribed under the name of copperas, but it is a true salt of iron, and often prescribed under that name, and used instead of the genuine preparation; our chemists in general giving themselves no further trouble about the making of that salt, than to dissolve and purify the common copperas, and shoot it again into crystals. It is a noble deobstruent, and is a great medicine in the suppression of the menses, but should be used with caution. In large doses it proves emetic, and, in small, is found a good remedy against worms.

COPPICE, or COPSE, a little wood consisting of under woods, or such as may be raised either by sowing or planting.

When they are intended to be raised from mast or seed, the ground is ploughed, in the same manner as it is for corn: and either in autumn or in spring, good store of such masts, nuts, seeds, berries, &c. are to be sown with the grass, which crop is to be cut, and then the land laid for wood. They may also be planted about autumn, with young sets, or plants, in rows about ten or fifteen feet distance. If the copses happen to grow thin, the best way of thickening them is to lay some of the branches or layers of the trees, that lye nearest to the bare places, on the ground, or a little in the ground: this detained with a hook or two, and covered with fresh mould, at a competent depth, will produce a world of suckers, and thicken a copse speedily.

COPULA, in logic, the verb that connects any two terms in an affirmative or negative; as *riches make a man happy*; where *make* is the copula: *no weakness is any virtue*; where *is* is the copula.

COPULATION, the act of generation, or the congress of the male and female, otherwise called coition. See the articles COITION and GENERATION.

COPULATIVE PROPOSITIONS, in logic, those where the subject and predicate are so linked together, by copulative conjunctions, that they may be all severally affirmed or denied one of another. Example, *Riches and honours are apt to elate the mind, and increase the number of our desires.*

COPULATIVE CONJUNCTION. See the article CONJUNCTION.

COPY, in a law sense, signifies the transcript of any original writing, as the copy of a patent, charter, deed, *&c.*

A common deed cannot be proved by a copy or counterpart, where the original may be procured. But if the deed be inrolled, certifying an attested copy, is proof of the inrollment, and such copy may be given in evidence.

COPY is also used for the imitation of an original work, more particularly in painting, draught, figure, *&c.*

COPY, among printers, denotes the manuscript, or original of a book, given to be printed.

COPY-HOLD, a tenure for which a tenant has nothing to shew but the copy of the rolls made by the steward of the lord's court.

It is called a base tenure, because the tenant holds the land at the will of the lord. However it is not simply at the will of the lord, but according to the custom of the manor by which such estate is descendible, and the tenants heirs may inherit it; and a copy-holder, so long as he does his services, and does not break the custom, cannot be ejected by the lord; and if he be, he shall have trespass against him.

Some copyholds the tenants hold by the verge in antient demesne; and tho' held by copy, yet they are a kind of freehold: and other copyholds are such as tenants hold by common tenure, called mere copyhold.

If a person would devise a copyhold estate, he cannot do it by his will, but he must surrender to the use of his last will and testament, and in his will declare his intent; and here the lands do not pass by the will, but by the surrender thus made.

Copyhold inheritances have no collateral qualities, which do not concern the descent, as to make them assets to bind the heir, or whereof the wife may be endowed, *&c.* They are not extendible in execution, but are within the acts against bankrupts, and the statutes of limitation.

COPY-HOLDER, one who is admitted tenant of lands or tenements within a manor, which, time out of mind, by use and custom of the manor, have been demisable and demised to such as will take them in fee-simple, or fee-tale, for life, years, or at will, according to the custom of the manor by copy of court-roll. But is generally where the tenant has such estate either in fee or for three lives.

COQ. AD MED. CONSUMPT. among physicians, is an abbreviation for *coque ad medietatis consumptionem*, i. e. Boil it till half of it be consumed.

COQ. IN S. Q. AQ. *coque in sufficiente quantitate aquæ*, i. e. Boil in a sufficient quantity of water.

COQ. S. A. *coque secundum artem*, i. e. Boil according to art.

COQUIMBO, a port-town of Chili, in South America, situated at the mouth of a river of the same name, which discharges itself into the Pacific ocean: west long. 75° 10', and south lat. 30°.

COR, the HEART, in anatomy. See HEART.

COR CAROLI, in astronomy, an extra-constellated star in the northern hemisphere, situated between the coma berenices, and ursa major, so called by Dr. Halley in honour of king Charles.

COR HYDRÆ, a fixed star of the first magnitude, in the constellation of hydra. See the article HYDRA.

COR LEONIS, or REGULUS, in astronomy, a fixed star of the first magnitude, in the constellation leo. See LEO.

COR VENERIS, the name of a beautiful kind of heart-shells, called also cor bovis. See the article CARDIA.

CORACOBRACHIALIS, in anatomy, a muscle that has its origin at the coracoide process of the scapula, and its termination about the middle part of the arm. It serves to lift the arm obliquely outwards.

CORACOHYOIDÆUS, in anatomy, a muscle which having its origin from the upper edge of the scapula, near its neck, ascends obliquely under the mastoidæus, and is inserted in the os hyoides, which it serves to pull obliquely downwards. See the article HYOIDES.

CORA-

CORACOIDES, in anatomy, a fmall fharp procefs of the fcapula, fo called from its refembling a crow's bill.

The coracoide procefs in infants, is but a cartilage, afterwards it becomes an epiphyfis; and, after this, about the age of fixteen, it is perceived to be a feparate bone. It ferves to ftrengthen the articulation of the fhoulder, and gives origin to one of the mufcles of the arm.

CORACOMANTES, in antiquity, perfons who foretold events from their obfervations on crows.

CORAL, in natural hiftory, a production of the fea, ufually marked among the number of marine plants. See plate LI. fig. 2.

It has been doubted by fome authors of great credit, whether coral were properly a plant or not: fome, with Dr. Woodward, make it a foffile production, formed as cryftals and fpars are: others refer it to the animal tribe, of which opinion many of the french naturalifts are at prefent. But as it is found to grow and to take its nourifhment in the manner of plants, and to produce flowers and feeds, or at leaft a matter analogous to feeds, there requires no farther argument to prove that it truly and properly is of the vegetable kind. Boccone difcovered its nutritious juice lodged in cells under the bark or rind, and count Marfigli, the flowers and feeds.

The coral plant, called corallum by Tournefort, and ifis by Linnæus, and ranked by this laft author among the *cryptogamia lithophytorum*, is of the fame hardnefs and ftony nature throughout, and that as well while growing under the water, as when it has been ever fo long expofed to the air. All that has given occafion to the vulgar opinion of coral's being foft while in the fea, is that it has a foft and thin coat of a cruftaceous matter, covering it while it is growing, and which is taken off before it is packed up for ufe. It grows to ftones, or any other folid fubftances, without a root, or without any way penetrating them as plants do the earth; and not only to rocks and ftones, but to fhells, old iron inftruments, broken glafs, earthen veffels, and even to the bones of men lying at the bottom of the fea; all thefe having been found with regular and fine plants of red coral growing from them.

The red coral is met with in apothecaries fhops in fmall branched pieces of the thicknefs of a packthread, of a pale red colour, and ufually ftriated longitudinally on the furface. Thefe are the fmall branches of the plant, the larger and finer pieces being ufed for beads and other toys, where a larger price is paid for them. Medical authors give us receipts for a great many preparations of coral, as magifteries, tinctures, fyrups and falts. At prefent, however, they are difufed, and we know it in the fhops in no other form but that of the powder finely levigated, which is prefcribed as an aftringent and abforbent in diarrhoeas, the fluor albus, &c. with other medicines of the fame intention. We hear alfo of a white coral, and many fuppofe it to poffefs greater virtues than the red; but what we meet with in the fhops under this name, is a fpecies of another fea-plant, the madrepora. See the article MADREPORA.

There is a black coral, of the fame ftony fubftance with the red, and as gloffy as the blackeft marble; but we fee no fuch thing in the fhops: what is kept under this name, is a plant of a quite different genus, not of a ftony but a tough and horny texture, and is the lythophyton defcribed by authors under the name of lithophyton nigrum arboreum, and corallum nigrum officinarum. See the article CORALLINE.

CORAL *fifhery*. Red coral is found in the Mediterranean, on the fhores of Provence, from cape de la Couronne to that of St. Tropez; about the ifles of Majorca and Minorca; on the fouth of Sicily; on the coafts of Africa; and, laftly, in the Ethiopic ocean, about cape Negro. The divers fay, that the little branches are found only in the caverns whofe fituation is parallel to the earth's furface, and open to the fouth. The manner of fifhing being nearly the fame wherever coral is found, it will fuffice to inftance the method ufed at the baftion of France, under the direction of the company eftablifhed at Marfeilles for that fifhery. Seven or eight men go in a boat commanded by the patron or proprietor, and when the net is thrown by the cafter, the reft work the veffel, and help to draw the net in. The net is compofed of two rafters of wood tied crofs-wife, with leads fixed to them: to thefe they faften a quantity of hemp twifted loofely round, and intermingled with fome large netting. This inftrument is let down where they think there is coral, and pulled up again when the coral is ftrongly intangled in the hemp and netting. For this pur-

pofe,

Plate LI.



T. Jefferys sculp.

pofe, fix boats are fometimes required; and if in hauling in, the rope happens to break, the fifhermen run the hazard of being loft. Before the fifhers go to fea, they agree for the price of the coral, which is fometimes more, fometimes lefs a pound; and they engage, on pain of corporal punifhment, that neither they nor the crew fhall embezzle any, but deliver the whole to the proprietors. When the fifhery is ended, which amounts one year with another to twenty-five quintals for each boat, it is divided into thirteen parts, of which the proprietor hath four, the cafter two, and the other fix men one each, the thirteenth belongs to the company for payment of the boat furnifhed them. Red or white coral in fragments, for phyfic, pays on importation 7 $\frac{75}{100}$d. the pound, and draws back on exportation 6 $\frac{80}{100}$d. Whole coral unpolifhed, the pound, pays 3 s. 10 $\frac{50}{100}$d. and draws back 3 s. 4 $\frac{80}{100}$d. Whole coral polifhed, the pound, pays 5 s. 1 $\frac{50}{100}$d. and draws back 4 s. 7 $\frac{80}{100}$d.

Artificial CORAL, is made of cinnabar well beaten; a layer whereof is applied on a piece of wood well dried and polifhed, being firft moiftened with fize: the whole is then again polifhed, and for varnifh rub it over with the white of an egg.

CORAL-TREE, or CORAL-WOOD, erythrina, in botany. See ERYTHRINA.

CORALLINE, *corallina*, in botany, is a genus of fubmarine plants, confifting of ftalks and branches often beautifully ramified, and compofed of joints of an oblong figure inferted into one another. The greater part of thefe are gritty and of a coral-like matter, but nature varies from this in fome of the fpecies, which are of a fofter fubftance. See plate LI. fig. 3.

It is frequent on our own coafts, and what we ufe is in general of our own produce, though there is fome of it brought from France and Holland. It is to be chofen frefh, of a ftrong fmell, and greenifh or reddifh colour. The antients extol much the virtues of coralline; at prefent, however, we ufe it only againft worms, and it is generally mixed with worm-feed, falt of fteel, and other of the known anthilminthics.

Mr. Ellis, in an Effay towards a natural hiftory of corallines, and other marine productions of the like kind, publifhed in 1753, endeavours to prove that thefe fea fubftances are only cafes or coverings for marine polypes. See POLYPE. He tells us that he had an opportunity, on the ifland of Sheppey, of feeing thofe difputed beings, called branched corallines, alive in fea-water, by the help of a very commodious microfcope, and was fully convinced that thefe apparent plants were ramified animals in their proper fkins or cafes, not loco-motive, but fixed to fhells of oyfters, mufcles, &c. and to fucus's. He had afterwards an opportunity of feeing thofe corallines in motion, whofe polypes are contained in cups, fupported by a long ftem that appears full of rings, or as if they were twifted in form of a fcrew.

CORALLUM, CORAL, in botany. See the article CORAL.

CORAM NON JUDICE, in law, is a term ufed where a caufe is brought and determined in a court of which the judges there have not any jurifdiction.

CORAN, or ALCORAN. See the article ALCORAN.

CORBAN, a fcripture term for an offering which had life, in oppofition to that which had no life.

CORBAN is alfo a ceremony which the mahometans perform at the foot of mount Ararat, in Arabia, near Mecca. It confifts in killing a great number of fheep, and diftributing them among the poor.

CORBEILS, in fortification, the fame with what we call bafkets. See BASKET.

CORBEL, in architecture, the reprefentation of a bafket, fometimes feen on the heads of the coryatides.

It is fometimes ufed to fignify the vafe of a tambour of the corinthian column.

CORBEL, or CORBEIL, is alfo ufed in building, for a fhort piece of timber, placed in a wall, with its end fticking out fix or eight inches, as occafion ferves, in the manner of a fhouldering piece. The under part of the end thus fticking out, is fometimes cut in the form of a boultin, fometimes of an ogee, and fometimes of a face, &c. according as the workman fancies.

CORBY, a town of Germany, thirty miles eaft of Paderborn, in Weftphalia; eaft long. 9° 20′, north lat. 51° 40′.

CORCHORUS, JEWS-SALLAD, in botany, a genus of the polyandria-monogynia clafs of plants; the corolla of which confifts of five oblong, obtufe petals; narroweft at the bottom, erect, and of the length of the cup: the fruit is a very large, cylindric, accuminated pod, compofed of five valves, fometimes only of two, and contains five cells: the feeds are numerous, angular, and accuminated.

CORD,

CORD, or CHORD, feveral threads, cabled or twifted together, by means of a wheel. See the article ROPE.

CORD *of St. Francis*, a fort of rope, adorned with knots, wore by the brothers of the fraternity of St. Francis.

The cordeliers, capuchins, minorites, and rocolets, wear a white rope: but others, as the pique-puces, wear it black. The defign of it is to commemorate the bands wherewith Chrift was bound.

The fociety of the cord includes a great number of people befides religious. To obtain indulgences they are only obliged to fay five Paters, five Ave Mary's, and five Gloria-patri's, and to wear this rope, which muft firft have been bleffed by the fuperiors of the order.

CORD *of wood*, a certain quantity of wood for burning, fo called becaufe formerly meafured with a cord. The dimenfions of a ftatute cord of wood are eight feet long, four feet high, and four feet broad.

CORD-WOOD, new wood, and fuch, as when brought by water, comes on board a veffel, in oppofition to that which is floated.

CORDAGE, a term ufed, in general, for all forts of cord, whether fmall, middling, or great, made ufe of in the rigging of fhips. See the article RIGGING.

Cordage, cable-laid, as the feamen term it, is made with nine ftrands, *i. e.* the firft three ftrands are laid flack, and then three of them, being clofed together, make a cable, or cablet. See CABLE.

The fame for tacks, but they are laid tapering.

Cordage, hawfer-laid, is made only with three ftrands.

Cordage-ftays, are cable-laid, but made with four ftrands, as cables are with three; with the addition of an heart, which goes through the center of them.

The price of cordage and cable at Peterfburgh, in 1742, was one rouble, twenty copecs the poude.

Cordage ftuped, is that which, having been put in a tub in a very warm place, has caft out its moifture.

White cordage, is that which has not yet been tarred.

Cordage tarred in fpinning, is that which is made of rope yarn ready tarred.

Cordage tarred in the ftove, is that which has paffed through hot tar, in coming out of the ftove. Every quintal of cordage may take about twenty pounds of tar.

Cordage re-made, is that which is made of ropes ufed before.

Cordage, when very old, is ufed for oakum to chaulk the feams of fhips. See the article OAKUM.

Change cordage, that which is kept in referve, in cafe what is in ufe fails.

When a rope is faid to be fix inches, it is underftood of its circumference. A rope of fixty threads, is one compofed of fo many rope yarns.

Cordage is ufually made of fpun hemp: the great number of veffels built and fitted out at Amfterdam, either for war or trade, occafion a great commerce of all forts of cordage neceffary for them, all which fells by the fchippont of three hundred pounds. The fchippont of cordage of neat hemp cofts ufually fifty-fix florins; that of Mufcovy, from thirty to forty-feven. Deductions for weight and prompt payment are one *per cent.* on each.

The quantity of cordage ufed in rigging a veffel, is almoft inconceivable. Every rope hath its name and particular ufe. As the quantity of cordage is fo very extraordinary that is ufed in our own veffels and fhipping, both at home and abroad, and as alfo the quantities ufed by all the Europeans, Americans, and Afiatics, is immenfely great, too much encouragement cannot be given to the growth of hemp in our own colonies and plantations, to the end that we might, by that means, at leaft, amply fupply ourfelves, if we could not obtain any fhare in the fupply of other nations.

CORDATED, an appellation frequently given by naturalifts to things fomewhat refembling a heart.

CORDED, in heraldry. A crofs-corded fome authors take for a crofs wound or wrenched about with cords. See the article CABLED.

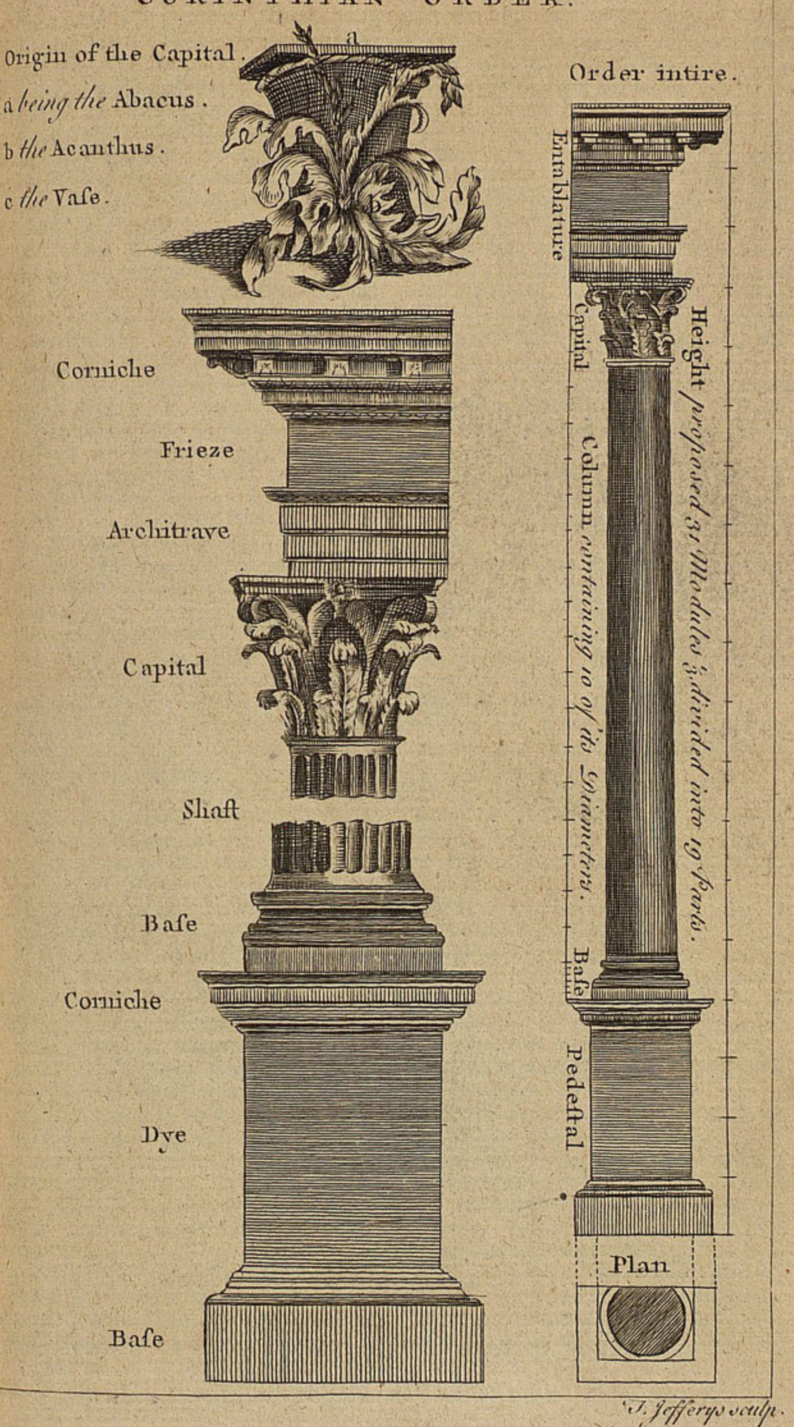
Others, with more probability, take it for a crofs made of two pieces of cord.

CORDELERAS, mountains of South America, otherwife called Andes. See the article ANDES.

CORDELIER, in church-hiftory, a francifcan or religious of the order of St. Francis. See the article CORD.

The cordeliers are enjoined to live in common: thofe who are admitted into the order, are firft to fell all they have and give it to the poor. The priefts are to faft from the feaft of all faints till the nativity.

CORDIA, SEBESTEN, in botany, a genus of the pentandria-monogynia clafs of plants, the corolla of which is formed of a fingle petal, of an infundibuliform fhape:


CORINTHIAN ORDER.
Origin of the Capital.
a being the Abacus.
b the Acanthus.
c the Vase.
a
b
Order intire.
Entablature
Capital
Column containing 10 of its Diameters.
Height proposed 31 Modules 2/3 divided into 19 Parts.
Base
Pedestal
Plan
Corniche
Frieze
Architrave
Capital
Shaft
Base
Corniche
Dye
Base
J. Jefferys sculp.

ſhape: the fruit is a dry, globoſe, acuminated drupe, covered with the cup: the ſeed is a ſulcated nut, containing two cells. The fruit of the ſebeſten is an attenuant and reſolvent, and has been frequently given in peripneumonies, in diſeaſes of the breaſt and lungs in general, and in ſtranguries and hoarſeneſs, but now it is much grown out of uſe.

CORDIAL, in medicine, whatever raiſes the ſpirits, and gives them a ſudden ſtrength and chearfulneſs.

In order to underſtand the operation of this upon a human body, it is neceſſary to conſider that a languor, or faintneſs, muſt either by the conſequence of too much exerciſe, too long watching, or too great a hurry of the animal functions, as in ſome diſtempers; all which do ſo far diſſipate the nervous fluid, or animal ſpirits, as that the ſolids cannot repeat, with wonted vigor, their neceſſary motions: or ſuch depreſſions muſt ariſe from the obſtruction of ſome natural evacuation, and generally that of perſpiration; from external cold, which lays a load upon the conſtitution. In both theſe caſes the manner in which a cordial acts is the ſame, ſince it muſt produce its effects by adding to the ſpringineſs and force of the fibres; and as this change is moſt remarkable from ſpirituous liquors, it may be of uſe to examine how they come to obtain ſuch a denomination; and this muſt ariſe from their ſubtilty and fineneſs of parts; ſo that the more ſpirituous any thing is that enters the ſtomach, the ſooner one feels its cordial effects: for that increaſe of vigour which a man obtains from common food, though the moſt natural and durable, is not immediately obtained in ſuch a degree, as to get the appellation of cordial, ſince it muſt paſs through ſeveral comminutions before it arrive to ſuch a fineneſs as to be diſperſed to the nerves; whereas a ſpirituous ſubſtance enters into the nerves as ſoon as it touches them, whereby their vibrations are invigorated, and all ſenſe of faintneſs removed. In like manner volatiles, the effluvia of flowers, fruits, and all things deemed cordials, operate upon the organs of ſmelling.

CORDIS CAPSULA, FOVEA, MUCRO, SEPTUM, &c. See the articles HEART, CAPSULA, FOVEA, MUCRO, &c.

CORDON, in fortification, a row of ſtones, made round on the outſide, and ſet between the wall of the fortreſs, which lies aſlope, and the parapet which ſtands perpendicular, after ſuch a manner, that this difference may not be offenſive to the eye: whence the cordons ſerve only as an ornament, ranging round about the place, being only uſed in fortification of ſtone-work. For in thoſe made with earth, the void ſpace is filled up with pointed ſtakes.

CORDOUA, or CORDOVA, a city of Andaluſia, in Spain, ſituated on the river Guadalquivir, ſeventy two miles north-eaſt of Seville, and ſeventy-five north of Malaga: weſt longitude 4° 45′, and north latitude 37° 45′.

It is a large city, ſaid to contain 14,000 families, and has a good trade in wine, ſilk, and leather: it is likewiſe a biſhop's ſee.

CORDOUAN TOWER, a remarkable high houſe at the mouth of the river Garonne, in France: weſt long. 1° 15′, and north lat. 45° 35′.

CORDWAINERS, a term whereby ſhoemakers are denominated in ſtatutes. By a ſtatute of Jac. I. the maſter and wardens of the cordwainers company, &c. are to appoint ſearchers and triers of leather; and no leather is to be ſold, before ſearched, ſealed, &c.

COREA, an iſland or peninſula on the north-eaſt coaſt of China, between 36° and 42° of north latitude.

CORED HERRINGS, thoſe caught in autumn on the coaſt near Yarmouth; which, being rolled in ſalt, are afterwards brought on ſhore to be made red-herrings.

COREGONUS, in ichthyology, a genus of malacopterygious fiſhes, with eight or ten oſſicles or little bones in the branchioſtege membrane, and extremely ſmall teeth. Under this genus are comprehended the lavaretus, albula-minor, thymallus, coregonoides, and wimba.

COREIA, in antiquity, a feſtival in honour of Proſerpine.

COREOPSIS, in botany, a genus of the ſyngeneſia-polygamia-fruſtranea claſs of plants, the compound flower of which is radiated, and conſiſts both of hermaphrodite and female ones; the former are numerous, ſituated on the diſk, and tubuloſe; and the latter ligulated, and only eight in number: add to this, that the former are divided into five, and the latter only into four ſegments at the limb: the ſtamina are five very ſhort, capillary fila-

filaments; and the feeds are folitary, orbiculated, and contained in the cup.

CORFE-CASTLE, a borough-town of Dorfetfhire, about twelve miles eaft of Dorchefter, near the fea: weft long. 2° 10′, and north lat. 50° 36′.

It fends two members to parliament.

CORFU, an ifland fubject to the Venetians, fituated in the Mediterranean, near the entrance of the gulph of Venice.

CORFU is alfo the capital of the above ifland: eaft long. 20° 40′, and north lat. 39° 40′.

CORIA, a city of Eftremadura, in Spain, thirty-five miles north of Alcantara: weft long. 6° 40′, and north lat. 39° 55′.

It is a bifhop's fee.

CORIANDER, *coriandrum*, in botany, a genus of the pentandria-digynia clafs of plants, the general corolla of which is difform and radiated; the proper flowers of the difk are hermaphrodites, and compofed of five unequal, inflexo cordated petals: the ftamina are five fimple filaments; and the fruit is a fpherical, ftriated berry, containing two hemifpherical feeds.

Coriander-feeds are accounted ftomachic and good in flatulencies, and head-aches occafioned thereby: they are alfo faid to difcufs ftrumæ, and ftop hæmorrhages and fluxes.

CORIARIA, MYRTLE-SUMACH, in botany, a genus of the decandria-pentagynia of Linnæus, whofe corolla confifts of five petals, very like the cup. It has no pericarpium: the feeds are five, kidney-fhaped, and inclofed in the petals.

CORIDOR, or CORRIDOR, in fortification, the fame with covert-way. See the article COVERT-WAY.

CORINTH, a city of european Turky, fituated near the ifthmus into the Morea, about fifty miles weft of Athens, in 23° eaft long. and 37° 30′ north lat.

CORINTHIAN, in general, denotes fomething belonging to Corinth: thus we fay, corinthian order, corinthian brafs, &c.

CORINTHIAN ORDER, in architecture, the fourth order of architecture, according to Scamozzi; but Mr. Le Clerc makes it the fifth, being the moft noble, rich and delicate of all the five. See plate LII.

Moft authors afcribe the invention of this order to Callimachus, a corinthian fculptor. Vilalpandus, however, oppofes this opinion, and will have the corinthian capital to have been derived from an order in Solomon's temple, the leaves whereof were thofe of the palm-tree. The corinthian order has feveral characters by which it is diftinguifhed from the reft. Its capital is adorned with two rows of leaves, between which arife little ftalks, or caulicoles, of which the volutes are formed, which fupport the abacus, and are fixteen in number. See ABACUS. It has no ovalo, nor even abacus, properly fpeaking; for the member which goes by that name, is quite different from the abacus of the other orders, being cut with a fweep, in the middle of which is carved a rofe, or other ornament. See ARCHITECTURE and ORDER.

Vitruvius obferves, that the corinthian order has no particular ordonnance for its corniche, or any of the other ornaments of its entablature; nor does he give it any other proportions than thofe of the ionic order: fo that if it appears higher than the ionic, it is purely owing to the excefs of the height of its capital. See the article IONIC and CAPITAL.

He alfo makes the reft of the entablature the fame; and likewife ufes the attic bafe indifferently for the one and the other. But Vitruvius differs widely in this order from all the examples of antiquity now remaining, the moft beautiful of which have a particular bafe, and the whole order twenty modules high, whereas the ionic has but eighteen.

Again, its capital is higher than that of Vitruvius, by one third of a module; and its entablature, which has modillions and fometimes dentils together with the modillions, is very different from the ionic entablature.

Moft modern architects pafs by Vitruvius's corinthian order, and follow that of the antient buildings; and felect from them, according to their feveral taftes; fo that the modern corinthian is a kind of compofite, differing from many of the antient buildings, and much more from Vitruvius. Vignola and Mr. Le Clerc made the corinthian order twenty modules in height, yet Serlio makes it but eighteen; and M. Perrault eighteen two thirds, retrenching fomething from the nineteen of Vetruvius. M. Perrault makes the height of the fhaft lefs than that of the ionic, by reafon of the excefs of its capital.

The CORINTHIAN *column by equal parts.* The corinthian pedeftal, being in height three diameters, is divided into four, allowing one to the bafe, whofe plinth is tw

two thirds of it; the other part is divided into nine, allowing two and a half to the torus, a half part to the fillet, three to the cimatium, a half part to the fillet, and two and a half to the ogee; and the breadth of the dye is a diameter, and two thirds.

The height of the bafe of the column is half a diameter, which is divided into fix, allowing three fourths to the plinth, one to the lower torus, one fourth to the fillet, a half part to the fcotia, one to the aftragals and fillets, a half part to the fcotia, one fourth to the fillet, and the other three fourths to the torus.

For the corinthian capital, divide the diameter into fix parts, and take feven fuch parts for the height, allowing two to each height of the leaves, whofe heads turn down half a part of it; allow another part for the ftalks, whofe heads turn down one third of it; three fourths to the fmall volutes, and one fourth to the fillet; the large volute is as high as the faid fillet; a half part to the hollow, and a half part to the ovolo, whofe fillet has one third of it.

The architrave is divided into nine parts, allowing one and a half to the firft face, one and one fourth to the fmall bead, two to the fecond face, three fourths to the fmall ogee, two and a half to the third face, a half part to the bead, one to the ogee, and a half part to the fillet. The height of the entablature is two diameters, and is divided into fix parts, two of which go to the architrave, one and a half to the frieze, and two and a half to the corniche.

The corniche is divided into twelve parts, allowing one and one fourth to the ogee, one fourth to the fillet, one and one fourth to the dentils, one fourth to the fillet, one fourth to the ovolo, one fourth to the fillet, two to the modillions, a half part to the ogee, and one fourth to the fillet; one and three fourths to the corona, three fourths to the cima reverfa, one fourth to the fillet, one and a half to the cima recta, and a half part to the fillet.

The projection of the bafe of the corinthian pedeftal is equal to its height; the upper fillet has three of thefe parts, and the lower fillet feven: the height of its corniche is half the bafe, being one eighth of the whole height; and is divided into eleven, by allowing one and a half to the ogee, a half part to the fillet, three to the cimatium, three to the corona, two to the ogee, and one to the fillet. The projection of the fillet has two of thefe parts; the bimatium, four and a half; the corona, fix and a half; and the whole eight and a half.

The projection of the bafe of the column is one fifth of the diameter; and the upper fillet has one of thefe fix parts; the upper torus, and the leffer fillets have one and a half; and one and three fourths are allowed to the aftragals and lower fillet.

For the projection of the capital, make a fquare, each fide being a diameter and half, and draw diagonals; and towards each angle, mark a diameter from the center, and draw the cants at right angles with the faid diagonals. Then from the curvature of the abacus, make an equilateral triangle (the part of the fquare cut off by the cants being the bafe) and the oppofite angle the center. In the circumference of the column are eight leaves, each leaf having four plants, and each plant five raffles. The projection of their head is found by a ftraight line from the abacus to the colarino. The rofe is as high as the volute, and projects to the fide of the forefaid fquare.

In the projection of the architrave; the fecond face has one fourth of a part; the third face, one of thofe parts; and the whole, two.

As for the projections of the corniche, the ogee is one half of thefe parts, and the dentils two and a half; the dentils are in breadth two thirds of their height, and the fpaces two thirds of their breadth. The modillions project three and three fourths, and its breadth is one fifth of the diameter, and one being in the center gives the fpaces. The returned modillions, eight and a half; the cap, nine; the corona, nine and a half; the cima reverfa, ten and a half; and the whole, twelve, being equal to the height. See the figure.

CORINTHIAN BRASS. See BRASS.

CORIS, in botany, a genus of the pentandria-monogynia clafs of plants, the corolla of which confifts of a fingle petal of the ringent kind; the tube is cylindric, and of the length of the cup; the limb is plane, and divided into five oblong, obtufe, emarginated fegments; the two upper ones fhort, and more diftant from one another; the fruit is a globofe capfule, formed of five valves, and fitu-

ated in the bottom of the cup; the feeds are fmall, numerous, and oval. See plate LI. fig. 4.

CORISPERMUM, in botany, a genus of the monandria digynia clafs of plants, whofe corolla confifts of two compreffed, crooked, pointed petals, equal in fize, and placed oppofite one another: its fruit is a roundifh capfule, compreffed, bilocular, and having a furrowed edge; the feeds are of an oblong figure, and ftand fingle.

CORK, or CORK-TREE, *fuber*, in botany, makes a diftinct genus of trees according to Tournefort, but is comprehended under quercus by Linnæus. See the article QUERCUS.

In order to peel off the bark, which is the only part that conftitutes the fubftance known by the name of cork, they make an incifion round both the top and root of the tree, and another longitudinally; and when it is thus got off, they unwarp it before the fire, and prefs it even with weights. This they do once in two or three years, without any prejudice to the tree; provided, however, it be done in a dry feafon, as rainy weather is accounted extremely prejudicial.

The cork fhould be chofen in fine boards, all of a piece, not full of knots or chinks, of a moderate thicknefs, yellowifh without and within, and that which cuts even.

Its ufe is too well known to need any account of it: in medicine it is of fervice to ftop bleeding, being reduced to powder, or put into fome aftringent liquor: burned and mixed with the unguentum populneum, it is very proper for the piles. The Spaniards burn cork into an extraordinary fine black, called fpanifh black, which is ufed for feveral forts of work.

CORK, or CORKING *of a faddle*, the pieces to which the belltars are made faft; fo called as having formerly been made of cork.

CORK, in geography, the capital of a county of the fame name, in Ireland, and province of Munfter, fituated on the river Lee, about fifty miles fouth of Limerick: weft longitude 8° 25′, and north latitude 41° 40′.

It is a port-town, and equals any town in Ireland, except Dublin, in trade; and is a bifhop's fee.

CORMANDEL-COAST, comprehends the eaftern coaft of the hither India, bounded by Golconda on the north, the bay of Bengal on the eaft, Madura on the fouth, and Bifnagar on the weft: it lies between 10° and 20° north lat.

CORMORANT, in ornithology, the englifh name of a fpecies of pelican, with fourteen long feathers in the tail, and the under part of the body whitifh: it is a fea-fowl, almoft equal to a goofe in fize, and feeds on fifh. All the writers on birds have defcribed it under the names of carbo aquaticus, or corvus aquaticus. See plate LI. fig. 5.

CORN, in country affairs, the grain or feeds of plants, feparated from the fpica, or ear, and ufed for making bread.

There are feveral fpecies of corn, fuch as wheat, rye and barley, millet and rice, oats, maize and lentils, peafe, and a number of other kinds, each of which has its ufefulnefs and propriety. See the articles, WHEAT, RYE, BARLEY, &c.

Corn is very different from fruits, with refpect to the manner of its prefervation, and is capable of being preferved in public granaries for preffing occafions, and of being kept for feveral centuries. See the article GRANARY.

The firft method is to let it remain in the fpike; the only expedient for conveying it to the iflands and provinces of America. The inhabitants of thofe countries fave it in the ear, and raife it to maturity by that precaution: but this method of preferving it, is attended with feveral inconveniencies among us; corn is apt to rot or fprout, if any the leaft moifture is in the heap, the rats likewife infeft it, and our want of ftraw alfo obliges us to feparate the grain from the ear. The fecond is to turn and winnow it frequently; or to pour it through a trough or millhopper, from one floor to another; being thus moved and aired every fifteen days, for the firft fix months, it will require lefs labour for the future, if lodged in a dry place: but if, through neglect, mites fhould be allowed to flide into the heap, they will foon reduce the corn to a heap of duft: this muft be avoided by moving the corn anew, and rubbing the places adjacent with oils and herbs, whofe ftrong odour may chace them away; for which garlic and dwarf-elder are very effectual: they may likewife be expofed to the open fun, which immediately kills them. When the corn has been preferved from all impurities for the fpace of two years, and has exhaled all its fires, it may be kept for fifty or even a hundred years, by lodging it in pits, covered with ftrong planks, clofely joined together:

but

but the ſafer way is to cover the heap with quick-lime, which ſhould be diſſolved by ſprinkling it over with a ſmall quantity of water; this cauſes the grains to ſhoot to the depth of two or three fingers, and incloſes them with an incruſtation, through which neither air nor inſects can penetrate.

Corn not exceeding the under-mentioned prices, ſhall have the following bounties per quarter, &c.

	Price per Qr.	Bounty per Qr.
	l. s.	s. d.
Wheat	2 8	5 0
Rye	1 12	3 6
Barley and malt	1 4	2 6
Oatmeal	0 15	2 6

In France, corn of the growth of the kingdom is reckoned a contraband commodity.

CORN-MILL, a water-engine for grinding of corn. See MILL and GRINDING.

Sharping CORN. See SHARPING.

CORN likewiſe makes the firſt part of the engliſh name of ſeveral plants, on account of their growing among corn: thus we call the *cyanus*, corn-bottle; the *gladiolus*, corn-flag; the *chryſanthemum*, corn-marygold; the *ſium*, corn-parſley; the *valerianella*, corn-ſallet; the *campanula*, corn-violet, &c. See the articles CYANUS, GLADIOLUS, &c.

CORN, in medicine and ſurgery, a hard tubercle like a flat wart, growing in ſeveral parts of the feet, eſpecially upon the joints of the toes. This diſorder is not unjuſtly attributed to the wearing of too ſtrait or narrow-toed ſhoes, which never fail to produce theſe tubercles, eſpecially if the perſon is obliged to ſtand or walk much, and in the ſummer-time.

Various are the methods uſed for removing theſe calloſities of the ſkin and cuticle; ſome by knife, and others by application of emollient and cauſtic or eroding medicines; but which way ſoever they are removed, it is certainly the beſt to let their hard ſubſtance be firſt ſufficiently mollified, and this may be obtained by frequently macerating them for a conſiderable time in warm water, and afterwards paring off their uppermoſt ſurface with a pen-knife: or if this does not ſuffice, let a plaſter of green wax, gum ammoniac. de ſapon. &c. or a leaf of houſeleek be applied, and renewed every day; when theſe applications have been continued for ſome time, peel them away with your nails, or ſcrape them with a ſcalpel, but with great caution, to avoid injuring any of the ſubjacent tendons of the extenſor muſcle, which might occaſion violent pains, inflammation, convulſions, a gangrene, and even death; all which have alſo been frequently the conſequences of cauſtics penetrating to thoſe parts.

CORNACHINE-POWDER, the ſame with what is ſometimes called the earl of Warwick's powder, and pulvis de tribus. This is a purging powder, and made thus: take of ſcammony, prepared with the fumes of ſulphur, two ounces; diaphoretic antimony, one ounce; the cryſtals of tartar, half an ounce: make them altogether into a powder. It is a ſmart purge, and frequently given to children, againſt worms, from five to fifteen grains; and to adults from fifteen grains to half a dram.

CORNAGE, an antient tenure, the ſervice whereof was to blow a horn, when any invaſion of the Scots was perceived.

This tenure was very frequent in the northern counties near the Picts wall.

CORNEA TUNICA, in anatomy, the ſecond coat of the eye, ſo called from its ſubſtance, which reſembles the horn of a lanthorn, See the article EYE.

The cornea is convex, pellucid, and diviſible into various lamellæ. It is ſituated in the fore part of the eye, and ſurrounded by the ſclerotica. It has a moſt exquiſite ſenſe, to the end that the tears, upon the leaſt pain, may be ſqueezed out of the lachrymal gland, to waſh off any filth, which, by ſticking to the cornea, might render it dim.

CORNEL-TREE, *cornus*, in botany. See the article CORNUS.

CORNELIAN, *ſarda*, the ſame with carnelian. See CARNELIAN.

CORNELIAN-CHERRY, a name ſometimes given to a ſpecies of cornel-tree.

CORNER, *angulus*, in a general ſenſe, the ſame with angle. See ANGLE.

CORNERS, or ANGLES, *of the volte*, in the manege, the extremities of the four lines of the volte, when you work in a ſquare.

CORNER-TEETH *of a horſe*, the four teeth placed between the middling teeth and the tuſhes, being two above and two below, in each ſide of the jaw, which ſhoot forth when the horſe is four years and a half old.

CORNER-STONES, among builders, the two ſtones which ſtand one in each jaumb of a chimney. The breadth of each ſtone ought to be equal to that of the jaumb, and its face to be hollowed in the ſweep of a circle; their height ought to reach from

from the hearth to the mantle-tree: they are commonly made of Ryegate or fire-ftone.

CORNET, in the military art of the antients, an inftrument much in the nature of a trumpet, which when it only founded, the enfigns were to march alone, without the foldiers; whereas, when the trumpet only founded, the foldiers were to move without the enfigns. The cornets and buccinæ founded the charge and retreat, and the cornets and trumpets founded during the courfe of the battle.

CORNET, in the military art of the moderns, the third commiffion-officer in a troop of horfe or dragoons.

This is a very honourable poft: he commands in the lieutenant's abfence; his principal duty being to carry the ftandard, near the middle of the firft rank of the fquadron.

CORNEUS, the name by which Linnæus calls a kind of tin ore, found in black columns, with irregular fides, and terminating in prifms. See TIN.

CORNICHE, CORNISH, or CORNICE, in architecture, the uppermoft member of the entablature of a column, as that which crowns the order. The corniche is the third grand divifion of the trabeation, commencing with the frieze, and ending with the cymatium. The corniche is different in different orders, there being as many kinds of corniches as there are different orders of columns. It is moft plain in the tufcan order. Vignola makes it confift of an ovum or quarter-round, an aftragal or baguette, the reglet or fillet, the larmier, and the talon. See the article TUSCAN ORDER.

In the ionic, the members are in moft refpects the fame as in the doric, except that they are frequently enriched with carvings, and have always dentils. See the article IONIC ORDER.

In the doric, Vignola makes the capitals of the triglyphs of the frieze, with their bandeletters, a talon, mutules or dentils, a larmier with its guttæ underneath, a talon, fillet, cavetto, and reglet. See the article DORIC ORDER.

The corinthian corniche is the richeft and is diftinguifhed by having both modillions and dentils, contrary to the opinion of Vitruvius, who looks upon thefe two ornaments as incompatible; and of Mr. Le Clerc, who accounts the dentils as peculiar to the ionic. See the articles CORINTHIAN ORDER and MODILLION.

In the compofite there are dentils, its mouldings carved, and there are channels under the foffit. See the article COMPOSITE ORDER.

For the height and projectures of the corniches in the feveral orders, Goldman makes the height of the tufcan $1\frac{1}{3}$, and its projecture $2\frac{2}{5}$ modules; the height of the doric $1\frac{1}{3}$, and its projecture $2\frac{2}{5}$; height of the ionic $1\frac{3}{5}$, its projecture $2\frac{2}{5}$; height of the corinthian $1\frac{2}{5}$ its projecture $2\frac{13}{30}$; height of the compofite $1\frac{3}{5}$, its projecture $2\frac{13}{30}$.

CORNICHE is alfo ufed, in general, for all little projectures in mafonry or joinery, even where there are no columns, as the corniche of a chimney, beaufet, &c.

Architrave-CORNICHE, that immediately contiguous to the architrave, the frieze being retrenched.

Mutilated-CORNICHE, one whofe projecture is cut, or interrupted to the right of the larmier: or reduced into a platband, with a cimatium.

Cantaliver-CORNICHE, a term ufed by workmen for a corniche that has cantalivers underneath. See CANTALIVERS.

Coving-CORNICHE, that which has a great cafement or hollow in it, ordinarily lathed and plaftered upon compafs-fprechets, or brackets.

Modillion-CORNICHE, one with modillions under it. See the article MODILLION.

CORNICHE is alfo ufed for the crownings of pedeftals. See the article PEDESTAL.

CORNICHE-RING, of a piece of ordnance, is that next from the muzzle-ring, backward. See the article CANNON.

CORNICULARIS PROCESSUS, the procefs or knob of the fhoulder-bone, called thus becaufe it refembles the figure of a crow's beak.

CORNICULARIUS, in roman antiquity, an officer of the army, appointed to affift the military tribune in quality of lieutenant.

They went the rounds inftead of the tribune, vifited the watch, and were moftly the fame with what the aids-major are in the french army: they had their name from a little horn they made ufe of, in giving their orders to the foldiers.

CORNICULATE, or CORNICULATED FLOWER, one with a fharp-pointed appendage, refembling, in fome degree, a cock's fpur.

CORNICULATE PLANTS, the fame with filiquofe plants with horned pods, or feed-veffels.

CORNISH,

Fig. 1. COLUBER.

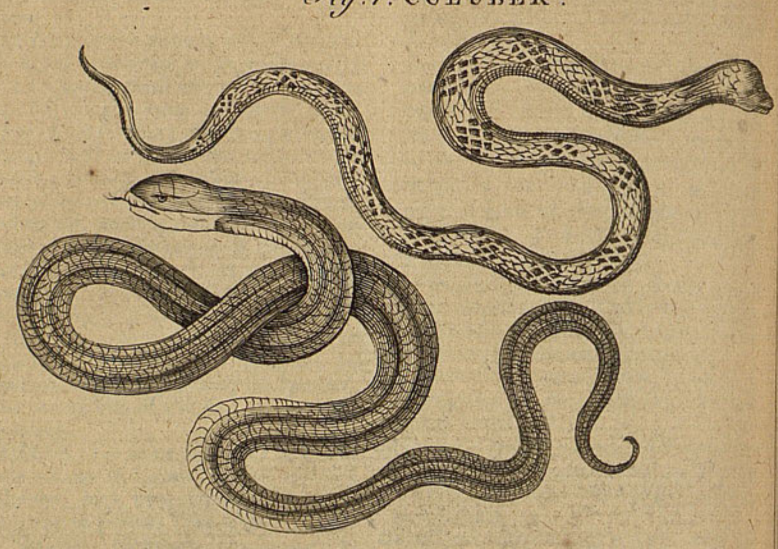


Fig. 2. CORNUS, the CORNEL-TREE.



Fig. 3 COPPELS.

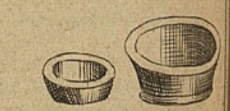


Fig. 4. COTULA.

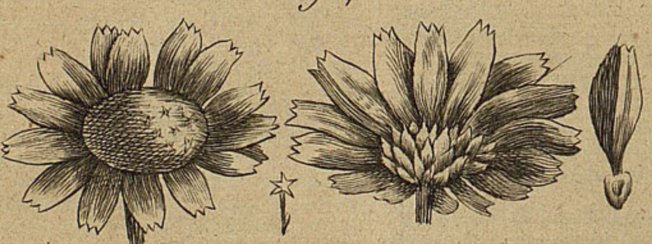
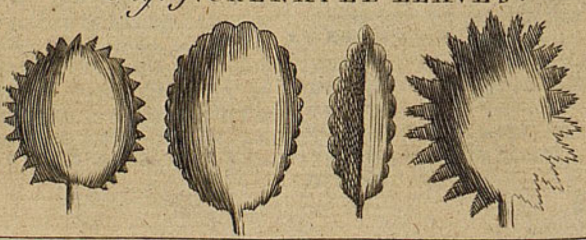


Fig. 5. CRENATED LEAVES.



J. Jeffery, sculp.

CORNISH, or CORNICHE, in architecture. See the article CORNICHE.

CORNISH RING, the fame with aftragal. See the article ASTRAGAL.

CORNIX, in ornithology, the name by which authors call feveral fpecies of corvus, *viz.* the common crow, the royfton crow, the bluifh crow or roller, and the rook. See CORVUS and CROW.

CORNU, HORN, in phyfiology. See HORN.

CORNU AMMONIS, or HAMMONIS, in natural hiftory, a genus of foffil fhells, called ferpent-ftones, or fnake-ftones, by the vulgar.

They are found of all fizes, from the breadth of a fix-pence to more than two feet in diameter; fome of them rounded, others greatly compreffed, and lodged in different ftrata of ftones and clays; fome again are fmooth, and others ridged in different manners, their ftriæ and ridges being either ftraight, irregularly crooked, or undulated. See plate LI. fig. 6.

The cornua ammonis undoubtedly belong to the cochlea-kind of fhells. See the article COCHLEA.

CORNU CERVI, HART'S HORN, in the materia medica. See HART'S HORN.

CORNUCOPIA, or HORN *of plenty*, among painters, &c. is reprefented under the figure of a large horn, out of which iffue fruits, flowers, &c. Upon medals the cornucopia is given to all deities, genii, and heroes, to mark the felicity and abundance of all the wealth procured by the goodnefs of the former, or the care and valour of the latter.

CORNUCOPIÆ, in botany, a genus of the triandria-digynia clafs of plants, the flower of which is univalvular; there is no pericarpium, but the corolla inclofes a fingle turbinated feed, convex on one fide, and plane on the other.

CORNUS, the CORNEL TREE, in botany, a genus of plants belonging to the tetrandria-monogynia clafs, the flower of which confifts of four oblong, acute, plane petals; the fruit is a roundifh umbilicated drupe; the feed a cordated or oblong nut, with two cells. See plate LIII. fig. 2.

The fruit of this tree is cooling, drying, and aftringent; ftrengthens the ftomach, ftops all kinds of fluxes and loofenefs, and is good in fevers, efpecially if attended with a diarrhœa.

CORNUTIA, in botany, a genus of the didynamia-angiofpermia clafs of plants, the flower of which is monopetalous and ringent; the limb quadrifid, the upper fegment being erect and roundifh, the lateral one diftinct, and the lower roundifh and entire: the fruit a globofe berry, with a reniform feed.

CORNWAL, the moft wefterly county of England, which gives the title of duke to the prince of Wales.

It fends forty-four members to parliament.

CORODY, in our law, fignified antiently a fum of money, or allowance of meat, drink, and cloathing, that was due to the king from an abbey, or other houfe of religion, of which he was founder, towards the fuftenance of fuch of his fervants as he thought proper to beftow it upon.

COROLLA, among botanifts, the moft confpicuous part of a flower, furrounding the organs of generation, and compofed of one or more flower-leaves, moft commonly called petals, to diftinguifh them from the leaves of the plant: according as there is one, two, or three of thefe petals, the corolla is faid to be monopetalous, dipetalous, tripetalous, &c. See the articles FLOWER, PETAL, &c.

COROLLARY is an ufeful confequence drawn from fomething already advanced or demonftrated: thus it being demonftrated that a triangle which has two equal fides, has alfo two angles equal; this corollary will follow, that a triangle which has three fides equal, has alfo its three angels equal.

COROLLISTS, *corollifiæ*, an appellation given by Linnæus to thofe botanifts, who have arranged plants under diftinct claffes according to the different form of their corollæ or flowers; fuch is the celebrated Tournefort and Rivinus. See the article BOTANY.

COROLLULA, a term ufed by botanifts, to exprefs the little partial flowers, which together make up the compound ones.

Thefe corollulæ are of two kinds, the tubulated and ligulated; the former whereof are always furnifhed with a campanulated limb, divided into four or five fegments; and the latter have only a flat linear limb, terminated by a fingle point, or by a broader extremity, divided into three or five fegments. See FLOWER.

CORONA, CROWN, or CROWNING, in architecture. See CROWNING.

CORONA, among anatomifts, denotes that edge of the glans penis where the preputium begins. See PENIS, &c.

CORONA, among botanifts, expreffes any thing growing on the head of a feed.

Thefe coronæ are of various kinds: fometimes fimple, confifting only of a

dentated membrane: sometimes pappose, consisting of downy matter; which, in some cases, is immediately affixed to the seed; in others it has a pedicle growing from it; and it sometimes is composed of simple filaments, and sometimes is ramose. Hence, in the description of the seeds of plants, they are frequently said to be crowned or winged with down: the use of this part being evidently to scatter and disperse the seeds, when ripe.

CORONA BOREALIS, the NORTHERN CROWN, or GARLAND, in astronomy, a constellation of the northern hemisphere, whose stars in Ptolemy's catalogue are 8, in Tycho's as many, and in Mr. Flamstead's 21.

CORONA MERIDIONALIS, a southern constellation, consisting of thirteen stars.

CORONA CLERICALIS, the same with coif. See the article COIF.

CORONA IMPERIALIS, in natural history, a beautiful shell of the voluta-kind, distinguished by certain eminences forming a sort of crown. See VOLUTA.

CORONÆ JUS. See the article JUS.

CORONÆ PLACITORUM CUSTOS. See the article CUSTOS.

CORONAL, *coronalis*, in anatomy, the first suture of the skull. See the articles SUTURE and SKULL.

This suture reaches transversely from the one temple to the other, and joins the os frontis with the ossa parietalia.

CORONALE OS, in anatomy, the same with the os frontis. See FRONTIS.

CORONARIA, in botany, a genus of the decandria-pentagynia class of plants, the corolla of which consists of five petals, their ungues being of the length of the cup, and increased by a margin: the fruit is a cylindric capsule, containing one cell, and opening at the top: the seeds are numerous and roundish.

CORONARY VESSELS, *vasa coronaria*, in anatomy, certain vessels which furnish the substance of the heart with blood.

CORONARY ARTERIES, are two arteries springing out of the aorta, before it leaves the pericardium.

CORONARY VEIN, a vein diffused over the exterior surface of the heart. It is formed of several branches arising from all parts of the viscus, and terminates in the vena cava, whither it conveys the remains of the blood brought by the coronary arteries.

Stomachic CORONARY, a vein inserted into the trunk of the splenic vein; which, by uniting with the mesenteric, forms the vena porta. See the article PORTA.

CORONATION, the public and solemn confirming the title, and acknowledging the right of governing to a king or queen; at which time the prince swears reciprocally to the people, to observe the laws, customs and privileges of the kingdom, and to act and do all things conformable thereto. See the articles KING, &c.

CORONATORE ELIGENDO, in law, a writ that lies directed to the sheriff, out of the court of chancery, on the death or discharge of any coroner, commanding him to call the freeholders of the county, for the election of a new coroner, and to certify to the said court both the election and the name of the party chosen, and to administer his oath to him, &c.

CORONATORE EXONERANDO, a writ that lies for the discharge of a coroner on account of negligence of his duty, or insufficiency.

CORONE, in anatomy, the anterior apophysis of the lower jaw. See JAW.

CORONER, an antient officer of this kingdom, so called because he is wholly employed for the king and crown.

The office of coroners especially concerns the pleas of the crown; and they are conservators of the peace in the county where elected, being usually two for each county. Their authority is judicial and ministerial: judicial, where a person comes to a violent death; to take and enter appeals of murder, pronounce judgment on outlawries, &c. and to enquire into the lands, goods, and escape of murderers, treasure-trove, wreck of the sea, deodands, &c. The ministerial power is when coroners execute the king's writs, on exception taken to the sheriff, as being party in a suit, of kin to either of the parties, or on the default of the sheriff, &c. The authority of the coroner does not terminate on the demise of the king, as that of judges, &c. does, who act by the king's commission. On default of sheriffs, coroners are to impannel juries, and to return issues on juries not appearing, &c.

CORONET. See the article CROWN.

CORONET, or CRONET *of a horse*, the lowest part of the postern, which runs round the coffin, and is distinguished by the hair joining and covering the upper part of the hoof.

CORONILLA, HATCHET-VETCH, in botany, a genus of the diadelphia-decandria class of plants, whose corolla is papilionaceous;

ceous; the vexillum cordated, bent backwards, and ſcarce longer than the alæ, ſtanding in cluſters at the top of the branch: the fruit is a very long, ſlender pod, contracted between each ſeed, and formed of two valves, with only one cell; the ſeeds are numerous, and of a round figure. See plate LIV. fig. 4.

CORPORA CAVERNOSA, in anatomy. See the article CAVERNOSE.

CORPORA OLIVARIA, two protuberances of the medulla oblongata. See the articles BRAIN and OLIVARIA CORPORA.

CORPORA PYRAMIDALIA, two protuberances of the under-part of the cerebellum, ſo called from their reſemblance of a pyramid. See CEREBELLUM.

CORPORA STRIATA, two protuberances in the lateral ventricles of the brain. See the article BRAIN.

CORPORAL, an inferior officer under a ſerjeant, in a company of foot, who has charge over one of the diviſions, places and relieves centinels, and keeps good order in the corps de garde: he alſo receives the word from the inferior rounds, which paſſes by his corps de garde. This officer carries a fuſee, and is commonly an old ſoldier: there are generally three corporals in each company.

CORPORAL *of a ſhip*, an officer who has the charge of ſetting and relieving the watches and centries, and who ſees that the ſoldiers and ſailors keep their arms neat and clean: he teaches them how to uſe their arms, and has a mate under him.

CORPORAL, *corporale*, in the chriſtian church, a name for the linen cloth thrown over the conſecrated elements at the celebration of the euchariſt. See the article EUCHARIST.

The inſtitution of it is aſcribed to Euſebius biſhop of Rome, about the year 300.

CORPORATE, or INCORPORATE, is ſaid of corporations. See the article CORPORATION.

CORPORATE COUNTY. See COUNTY.

CORPORATION, a body politic, or incorporate, ſo called becauſe the perſons or members are joined into one body, and are qualified to take and grant, &c.

Corporations are either ſpiritual or temporal: ſpiritual, as biſhops, deans, archdeacons, parſons, vicars, &c. Temporal, as mayor, commonalty, bailiff, burgeſſes, &c. And ſome corporations are of a mixed nature, compoſed of ſpiritual and temporal perſons, ſuch as heads of colleges and hoſpitals, &c. All corporations are ſaid to be eccleſiaſtical or lay: eccleſiaſtical are either regular, as abbies, priories, chapters, &c. or ſecular, as biſhoprics, deaneries, archdeaconries, &c. lay, as thoſe of cities, towns, companies, or communities of commerce, &c. See ABBEY, COMPANY, &c.

Corporations may be eſtabliſhed three different ways, *viz.* by preſcription, letters patent, or act of parliament; but are moſt commonly eſtabliſhed by patent or charter. London is a corporation by preſcription: but though corporations may be by preſcription, yet it ſhall be intended, that it did originally derive its authority by a grant from the king.

A corporation may be diſſolved; for it is created upon a truſt, and if it be broken, it is forfeited. No perſon ſhall bear office in any corporation but ſuch as have received the ſacrament, taken oaths, &c. and none are to execute in a corporation for more than a year. A corporation cannot ſue or appear in perſon, but by an attorney.

Ordinances made by corporations, to be obſerved on pain of impriſonment, forfeiture of goods, &c. are contrary to Magna Charta. Actions ariſing in any corporation, may be tried in the corporation courts: but if they try actions not within their juriſdictions, and encroach upon the common law, they are liable to be puniſhed for it. The corporation of the city of London is to anſwer for all particular miſdemeanors committed in any of the courts of juſtice within the city, and for all other general miſdemeanors committed in the city.

CORPOREAL, thoſe qualities which denominate a body. See QUALITY, BODY, and INCORPOREAL.

CORPORIFICATION, or CORPORATION, in chemiſtry, the operation of recovering ſpirits into the ſame body; or, at leaſt, into a body nearly the ſame with what they had before their ſpiritualization.

CORPS DE GARDE, a poſt in an army, ſometimes under covert, ſometimes in the open air, to receive a number of ſoldiers, who are relieved from time to time, and are to watch in their turns, for the ſecurity of ſome more conſiderable poſt.

Corps de garde is frequently uſed for the men who watch in this poſt.

CORPS DE BATAILLE, the main body of an army, drawn up in order of battle. See the articles ARMY and GUARD.

CORPS, in architecture, a term to signify any part that projects or advances beyond the naked of a wall, serving as a ground for some decoration, or the like.

CORPULENCY, in medicine, the state of a person too much loaded with flesh or fat. An excessive degree of corpulency or fatness becomes a disease, when the whole body, as well as the belly, is grown into such a bulk, that the actions, especially with respect to motion and respiration, are greatly impaired if not entirely impeded. Boerhaave observes, that corpulency does not consist in the solids of the body's being increased, but in their being distended to a greater pitch by the abundance of humours collected in them.

Corpulency arises from a laudable, copious, oily, soft blood, containing less than its share of salt; and is promoted by any thing that tempers and softens the blood, and renders it less sharp and saline; such are want of exercise and motion, an indolent life, too much sleep, nourishing foods, &c.

There is not a better remedy to reduce a corpulent habit, than acetum scilliticum drunk upon an empty stomach. Semen fraxini, or bird's tongue, as it is called, ad ʒ j. drank in a morning in a glass of wine, is very much commended as an effectual diuretic, and, on that account, abates corpulency. Borellus commends the chewing of tobacco; but it is not safe for all persons to use it, lest it should throw them into a consumption. Those that are naturally gross and fat oftener die suddenly than other people. The most extraordinary instance of corpulency perhaps ever known, was that of Edw. Bright of Malden, in Essex, who, dying in Nov. 1750, at the age of twenty-nine years, weighed six hundred and sixteen pounds; his waistcoat, with great ease, was buttoned round seven men of ordinary size.

CORPUS, BODY, in physiology. See the article BODY.

CORPUS, in anatomy, a term applied to several parts of the animal structure, as corpus callosum, corpus cavernosum, corpus highmori, corpus lacteum ovarii, corpus pampiniforme, &c.

CORPUS CALLOSUM, a medullary part of the brain, which covers the whole lateral ventricles. See the articles BRAIN and CALLOSUM CORPUS.

CORPUS CAVERNOSUM, a cavernous substance, surrounding the vagina, which swells in the time of coition. See VAGINA and CAVERNOSE.

CORPUS PAMPINIFORME, a body formed a little above the testicles, by the division and reunion of the spermatic veins. See the article SPERMATIC.

CORPUS RETICULARE. See RETICULAR BODY.

CORPUS is also used in matters of literature, for several works of the same nature, collected together in the form of a system of any art or science. See the article BODY.

CORPUS CUM CAUSA, in law, a writ issuing out of the chancery, to remove both the body and record, touching the cause of any man lying for execution, upon a judgment for debt, into the king's bench, there to lie till he has satisfied the judgment.

CORPUS CHRISTI, a festival of the church, kept on the next Thursday after Trinity-sunday, instituted in honour of the eucharist; to which also one of the colleges in Oxford is dedicated.

CORPUSCLE, in physics, a minute particle, or physical atom, being such as a natural body is made up of. By this word is not meant the elementary particles, nor the hypostatical principles of chemists; but such particles, whether of a simple or compound nature, whose parts will not be dissolved nor dissipated by ordinary degrees of heat. Sir Isaac Newton, in the second book of his Optics, shews a way of guessing, with great accuracy, at the size of the component corpuscles of bodies. See COLOUR.

CORPUSCULAR PHILOSOPHY, that way of philosophising which endeavours to explain things, and to account for the phænomena of nature by the motion, figure, rest, position, &c. of the corpuscles, or the minute particles of matter. See the article ATOMICAL PHILOSOPHY.

This philosophy is so very antient, that both before Epicurus and Democritus, and even before Leucippus taught in Greece, there was a phœnician philosopher, who explained natural phænomena by the motions and affections of the minute corpuscles of matter, as very old writers inform us: and, therefore, it should rather be called phœnician philosophy, than epicurean.

Mr. Boyle sums up the chief principles of the corpuscular hypothesis, which now flourishes under the mechanical philosophy, in these particulars:

1.

1. They suppose that there is but one catholic or universal matter, which is an extended, impenetrable, and divisible substance, common to all bodies, and capable of all forms. 2. That this matter, in order to form the vast variety of natural bodies, must have motion in some or all its assignable parts; and that this motion was given to matter by God the creator of all things, and has all manner of directions and tendencies. 3. Matter must also be actually divided into parts, and each of these primitive particles, fragments, or atoms of matter, must have its proper magnitude or size, as also its peculiar figure or shape. 4. They suppose also, that these differently sized and shaped particles may have as different orders and positions, whereof great variety may arise in the composition of bodies. See the article EPICUREAN PHILOSOPHY.

CORRECTION, in printing, the pointing out or discovering the faults in a printed sheet, in order to be amended by the compositor, before it be printed off. See the article PRINTING.

The corrections are placed on the margin of every page, right against the line wherein the faults are found: and there are different characters used to express different corrections: thus ₰ is put for *dele*, to intimate that something, as a point, letter, word, *&c.* dashed in that line, is to be taken out. If any thing is to be inserted, the place is to be marked thus ʌ and the thing to be inserted, added in the margin. When there are two or more corrections in the same line, then they are all separated in the margin by little bars, thus |. If a space be omitted, its place is marked with a caret, and the margin thus #. When a letter is inverted, it is expressed in the margin thus ɘ. When any thing is to be transposed, it is directed thus, *Extraordinary scarce ever fail of attainments exciting envy*, for *Extraordinary attainments scarce ever fail of exciting envy*, and in the margin is added *tr.* If italic characters are to be changed for roman, or *vice versa*, a line is drawn thus — under the letters, and *rom.* or *ital.* is writen in the margin. If a space, or an m or n quadrat, stick up, and print black, it is marked in the margin with a dash, thus |. If a word, sentence, or paragraph is entirely omitted, the place is marked with a caret, and in the margin is put the word *out*. If the letters of a word stand too far asunder, a line is drawn under them, and in the margin is put a crooked line or hook, thus ◡. There are many other marks used in correcting, as ✓ for superior, *cap.* for capital, *l. c.* for lower-case, *&c.*

CORRECTION, in the manege, denotes aids given with severity. See the articles AID and CHASTISEMENT.

CORRECTION, in pharmacy, the adding some ingredient to a composition, in order to check or moderate the violence of operation: thus, for instance, some carminatives, such as the seed of fennel, or anise, are added to sena-leaves, which when exhibited alone, generally produce flatulencies and gripes. See CORRECTOR.

CORRECTION, in rhetoric, the same with epanorthosis. See EPANORTHOSIS.

CORRECTOR, in general, denotes something that mends the faults or bad qualities of others.

CORRECTOR *of the staple*, a clerk belonging to the staple, whose business is to write down and record the bargains that merchants make there.

CORRECTOR, in medicine and pharmacy, an ingredient in a composition, which guards against or abates the force of another.

Thus the lixivial salts prevent the grievous vellications of resinous purges, by dividing their particles, and preventing their adhesions to the internal membranes, whereby sometimes they occasion intolerable gripings: and thus spices and carminative seeds also assist in the easier operation of some cathartics, by dissipating collections of wind. In the making a medicine, such a thing is also called a corrector, as destroys or diminishes a quality in it, that could not otherwise be dispensed with: thus turpentine may be called the corrector of quicksilver, by destroying its fluxity, and making it thereby capable of mixture; and thus rectified spirit of wine breaks off the points of some acids, so as to make them become safe and good remedies which before were destructive.

CORRELATIVE, something opposed to another in a certain relation. Thus, father and son are correlatives. Light and darkness, motion and rest, are correlative and opposite terms.

CORRIDOR, or CORIDOR. See the article CORIDOR.

CORRIGIOLA, in botany, a genus of the pentandria trigynia class of plants, the corolla whereof consists of five, oval,

patent petals, ſcarce bigger than the cup; there is no pericarpium but the calyx, which cloſing, ſerves in the place of one; the ſeed is ſingle and ovato-triquetrous.

CORROBORANTS, or CORROBORATIVE MEDICINES, the ſame with ſtrengtheners. See the article STRENGTHENERS.

CORROSION, in a general ſenſe, the action of gnawing away, by degrees, the continuity of the parts of bodies.

Acids corrode moſt natural bodies.

CORROSION, in chemiſtry, an action on bodies, by means of proper menſtruums, that produces new combinations, and a change of their form, without converting them to fluidity. See the article MENSTRUUM.

The ſubject of this operation, as it is uſed in pharmacy, is principally metals; and the manner in which it is performed is commonly of two kinds: the firſt and moſt ſimple is, when the body to be corroded is put into a fluid menſtruum, and either taken out inſtantly, and put into a moiſt place, as in the method generally practiſed in making a ceruſs; or continued therein till the whole of the matter be corroded, as in the preparation of turbith mineral from the oil of vitriol and mercury. This may properly be called corroſion by immerſion. The other, called in domeſtic chemiſtry, cementation, is performed by expoſing the body to be corroded, to the action of a vapour or ſteam, expelled by heat, from what is uſed as the menſtruum, as in the proceſs given by the Edinburgh Diſpenſatory for the making ceruſs.

There are, nevertheleſs, other methods by which corroſions are, in moſt inſtances, made; as in the rubigo chalybis of the London Diſpenſatory, where ſprinkling or rubbing of the body over with a menſtruum are ordered in the place of dipping, which the form of ſteel-filings made inconvenient: and ſome others, which from the particular texture of the matter become neceſſary; thus in the corroſion of mercury by ſulphur, in the preparation of æthiops mineral, trituration, or ſometimes fuſion, is employed: and in the chalybis cum ſulphure prep. the heated ſteel is only touched with the ſulphur.

CORRUGATOR, in anatomy, a muſcle which ariſes fleſhy from the proceſs of the os frontis, next the inner or great angle of the orbit, above the joining of the os naſi and the ſuperior proceſs of the os maxillare with this bone: from thence it runs obliquely outwards and upwards, and is inſerted into the fleſhy part of the occipito frontalis, ſome of its fibrillæ paſſing through into the ſkin, a little higher than the middle region of the eye-brows. Its uſe is to ſmooth the ſkin of the forehead, by pulling it down after the action of the occipito frontalis; and when it acts moſt forcibly, it ſerves to wrinkle the ſkin of the front between the ſupercilia, as it happens when we frown, or knit the brows.

CORROSIVES, in ſurgery, are medicines which corrode whatever part of the body they are applied to: ſuch are burnt alum, white precipitate of mercury, white vitriol, red precipitate of mercury, butter of antimony, lapis infernalis, &c.

CORRUPTICOLÆ, in church-hiſtory, a ſect of heretics, ſo called from their maintaining that the body of Chriſt was corruptible, that the fathers had owned it, and that to deny it was to deny the truth of our Saviour's paſſion.

CORRUPTION, the deſtruction, extinction, or, at leaſt, ceſſation for a time, of the proper mode of exiſtence of any natural body. See PUTREFACTION.

Whenever any body loſes all or any of thoſe accidents, which are eſſentially neceſſary to the conſtituting of ſuch a particular kind, it is then ſaid to be corrupted, or deſtroyed, and loſes its former denomination: but nothing can be deſtroyed of its ſubſtance, or materiality; for as in generation, nothing of matter is produced that did not before exiſt, ſo in corruption, nothing more is loſt beſides that particular modification which was its form, and conſtituted it of ſuch a ſpecies. Dr. Drake accounts for the corruption of animal and vegetable bodies thus: the principle of corruption is, perhaps, the ſame which in a ſtate of circulation, is the principle of life, *viz.* the air, which is found mixed in conſiderable quantities with all ſorts of fluids, as neceſſary to vegetable as to animal life. Now this air has two motions, *viz.* an expanſive one, from its natural elaſticity, by means whereof it communicates that inteſtine motion which all juices have, and by which the containing parts are gradually extended, and grow; and a circulary or progreſſive motion, which is not eſſential to it, but is occaſioned by the reſiſtance of the ſolid parts of thoſe bodies, which obliges it to take that courſe that is moſt free and open, which is through the veſſels of animals and plants. Now this

courſe

course being stopt, the expansive motion still remains, and continues to act till, by degrees, it has so far overcome the including bodies, as to bring itself to an equal degree of expansion with the external air, which it cannot do without destroying the texture and continuity, or specific degree of cohesion, of those solids, which is what we call a state of corruption.

The expulsive or destructive quality of the air in bodies may be promoted two ways, and therefore corruption accelerated by as many ways, *viz.* either by weakening the tone or cohesion of the including parts, and so facilitating the work of the air, as is the case when fruit is bruised, which is found to corrupt sooner than in any other part: or by extending the expansive force of the air itself by heat, or some other co-operating circumstance, and so helping it to overcome the resistance the sooner.

CORRUPTION *of blood*, in law, an infection accruing to a man's state, attainted of felony and treason, and to his issue; for as he loses all to the prince, *&c.* his issue cannot be heirs to him, or to any other ancestor by him: and if he were noble, his heirs are rendered ignoble.

CORSAIR, a pirate, or person who scours the sea for plunder, with an armed vessel, without commission from any prince or power. A corsair differs from a privateer, in that the latter acts under a commission, and only attacks the vessels of those at war with the state whence he had his commission.

CORSELET, a little cuirass; or, according to others, an armour or coat made to cover the whole body, antiently worn by the pike-men, usually placed in the front and flanks of the battle, for the better resisting the enemy's assaults, and guarding the soldiers placed behind them.

CORSICA, an island in the Mediterranean, between 8° and 10° east long. and between 41° and 43° north latitude, about one hundred miles south of Genoa, and subject to that republic; though the natives have for many years disputed their right, and are still in arms against them.

CORSNED BREAD, a certain superstitious trial made use of among our saxon ancestors, by taking a piece of bread, and eating it, with solemn oaths and execrations, that it might prove poison, or their last morsel, if what they asserted or denied was not true.

The bread was first accursed by the priest, and then offered the suspected criminal, to be swallowed by way of purgation, it being believed that it would choak him, if he was not innocent.

CORTEX, BARK, in phytology and dendranatomy. See the article BARK.

CORTEX, or CORTEX PERUVIANUS, is more particularly used for the quinquina, or jesuits-bark. See QUINQUINA.

CORTEX WINTERANUS, in botany, *&c.* See the article WINTER'S BARK.

CORTEX CEREBRI, the cortical part of the brain, so called on account of its greyish colour. See the article BRAIN.

CORTICAL, in general, something consisting of, or resembling bark. Hence the

CORTICAL *part of the brain*, is the exterior part, so called on account of its investing the internal or medullary part, as the bark of a tree does the woody part. See the article BRAIN.

CORTONA, a city of Tuscany, in Italy, about thirty-five miles south-east of Sienna: east longitude 13°, and north latitude 43° 15′.

CORTUSA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of one rotated petal; the fruit is an ovato-oblong acuminated capsule, furrowed longitudinally on each side, with two valves having their sides involuted, and one cell containing numerous oblong, obtuse, small seeds. The leaves, says Dale, promote expectoration.

CORVET, or CURVET, in the manege. See the article CURVET.

CORUNNA, or GROYNE, a port-town of Gallicia, in Spain, situated on a fine bay of the Atlantic ocean, about thirty-two miles north of Compostella: west longit. 9°, and north lat. 43°.

It is to this port that the english pacquet-boat always goes, in time of peace.

CORUSCATION, a glittering, or gleam of light issuing from any thing. It is chiefly used for a flash of lightening darting from the clouds in time of thunder. See LIGHTENING and THUNDER.

There is a method of producing artificial coruscations, or sparkling fiery meteors, which will be visible not only in the dark, but at noon day, and that from two liquors actually cold; the method is this: fifteen grains of the solid phosphorus are to be melted in about a dram of water; when this is cold pour upon it two ounces of oil of vitriol; let these be shaken together, and they will at first heat, and afterwards they will throw up fiery balls in great number, which will

adhere like so many stars to the sides of the glass, and continue burning a considerable time; after this, if a small quantity of oil of turpentine be poured in, without shaking the vial, the mixture will of itself take fire, and burn very furiously. The vessel should be large, and open at the top. See INFLAMMABILITY.

Artificial coruscations may also be produced by means of oil of vitriol and iron, in the following manner. Take a glass body, capable of holding three quarts; put into this three ounces of oil of vitriol, and twelve ounces of common water; then warming the mixture a little, throw in, at several times, two ounces or more of clean iron filings; upon this an ebullition, and white vapours will arise: then present a lighted candle to the mouth of the vessel, and the vapour will take fire, and afford a bright fulmination, or flash like lightening. Applying the candle in this manner several times, the effect will always be the same; and sometimes the fire will fill the whole body of the glass, and even circulate to the bottom of the liquor, and at others it will only reach a little way down its neck. The great caution to be used in this experiment is the making the matter of a proper heat; for, if too cold, few vapours will arise, and if made too hot, they will ascend too fast, and will only take fire in the neck of the glass, without any remarkable coruscation.

CORVUS, the RAVEN or CROW-kind, in ornithology, a genus of birds, of the order of the picæ, the distinguishing characteristic of which is, that the beak is of a convex and cultrated figure, the chaps nearly equal, and the base beset with hairs. To this genus belong the raven, the crow, rook, jackdaw, &c. See the article RAVEN, CROW, ROOK, &c.

CORVUS, the RAVEN, in astronomy, a constellation of the southern hemisphere, wherein, according to Ptolemy and Tycho's catalogue, are seven stars; whereas the Britannic catalogue reckons no less than ten.

CORVUS, in antiquity, a machine invented by the Romans at the time of their wars in Sicily, when they first engaged the carthaginian fleet. According to Polybius, the corvus was framed after this manner:

On the prow of their ships they erected a round piece of timber about 1 ½ foot diameter, and twelve feet in length, on the top of which was a block, or pulley; round this piece of timber was a platform of boards four feet in length, which was about eighteen feet long, and well framed and fastened with iron; the entrance was longways, and it was moveable round the aforesaid upright piece of timber, and could also be hoisted up and down within six feet of the top: about this frame was a sort of parapet knee high, which was defended with upright bars of iron, sharp at the ends, and towards the top there was a ring, by the help of which, and a pulley, or tackle, it was hoisted and lowered at pleasure; with this moveable gallery, they boarded the enemies ships (when they did not lie side by side) sometimes on their bow, and sometimes in the after part of the ship; the soldiers keeping the boss of their bucklers level with the top of the parapet, &c. and by the means of this new engine got a victory over the Carthaginians in their first sea-fight with them, though the enemy were long before well skilled in naval affairs, and the Romans raw and ignorant.

CORYBANTES, in antiquity, priests of the goddess Cybele, who, inspired with a sacred fury, danced up and down, tossing their heads and beating on cymbals or brazen drums. They inhabited mount Ida, in the island of Crete, where they nourished the infant Jupiter, keeping a continual rattling with their cymbals, that his father Saturn, who had resolved to devour all his male offspring, might not hear the child's cries.

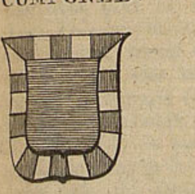
CORYBANTICA, in grecian antiquity, a festival kept in honour of the corybantes.

CORYCOMACHIA, among the antients, was a sort of exercise in which they pushed forwards a ball, suspended from the ceiling, and at its return either caught it with their hands, or suffered it to meet their body. Oribasius informs us it was recommended for extenuating too gross bodies.

CORYLUS, the HAZLE, in botany, a genus of the monoecia-polyandria class of plants, the male flowers of which are disposed in form of a long amentum; the female ones are remote from the males, on the same plant, sessile, and included in a gem; there is no corolla nor pericarpium; the fruit is a subovated nut, with a deraded base, and top a little compressed and a little acuminated. See plate LIV, fig. 7.

The kernels of filberds and spanish nuts, though

Fig. 1. COMPONED.



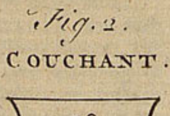


Fig. 2. COUCHANT.



Fig. 3. CONYZA.



Fig. 4. CORONILLA.



Fig. 5. COTINUS.



Fig. 6. COTYLEDON.



Fig. 7. CORYLUS.

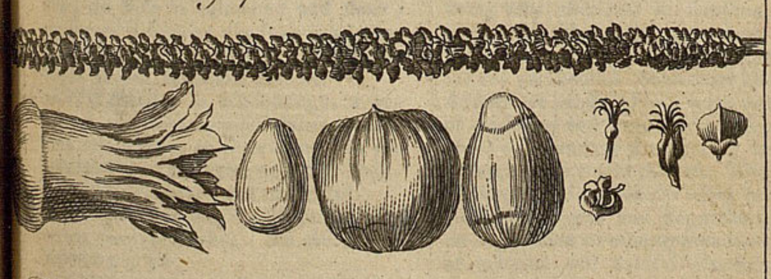


Fig. 8. CROCUS.

Fig. 9. CUCUMBER.



T. Jefferys sculp.

though commonly eaten, are difficult of digeftion, and confequently bad for the ftomach, and the caufe of head-achs.

CORYMBIFEROUS PLANTS are fuch as have a compound difcous flower, but their feeds have no down adhering to them. They bear their flowers in clufters, and fpreading round in the form of an umbrella. Of this kind are the corn-marygold, common ox-eye, the daifey, camomile, mug-wort, feverfew, &c.

CORYMBIUM, in botany, a genus of plants belonging to the fyngenefia-monogamia clafs, the flower of which is monopetalous and equal; the limb being divided into five lanceolated fegments; there is no pericarpium; the immutated cup contains one oblong feed, covered with a wool-like down.

CORYMBUS, κόρυμβος, among botanifts, clufters of berries, as thofe of ivy. See the article CORYMBIFEROUS.

Jungius ufes it to fignify the extremity of a ftalk, fo fubdivided and loaded with flowers, or fruits, as to compofe a fpherical figure. It is alfo, by modern botanifts, ufed to fignify a compound difcous flower, which does not fly away in down, the chryfanthemum, daifey, chryfocome, &c. for this kind of flowers, being fpread into breadth, refemble an umbrella, or bunch of ivy-berries.

CORYPHA, in botany, a genus of plants, the characters of which are not perfectly afcertained: the general fpatha is compound; the fpadix ramofe; and the corolla is divided into three oval, obtufe, patent fegments; the ftamina are fix fubulated filaments, longer than the corolla; the antheræ are adnate; the germen is roundifh; the ftyle is fubulated and fhort; the ftigma is fimple; the fruit is a large, globofe, unilocular berry; the feed is fingle, offeous, large and globofe.

CORYPHÆNA, in ichthyology, a genus of malacopterygious fifhes, which have five officles, or little bones, in the branchioftege membrane, and their back-fin reaches from the head to the tail.

To this genus belong the hippurus, novacula, and pompilus. See the article HIPPURUS, &c.

CORYPHE, among phyficians, the crown of the head; alfo the interior extremity of the fingers, next the nails.

CORYZA, in medicine, a catarrhal affection, confifting in the excretion of a ferous and vifcous humour, by the nofe and fauces. Some alfo underftand the fame thing by the word gravedo, making this and the coryza fynonymous terms, but improperly; for the gravedo is, ftrictly fpeaking, a catarrhal affection, in which there is no actual excretion of a ferous matter, but only a congeftion of it with ftagnation; whence it is eafy to conceive, that the fymptoms attending the gravedo, when the matter is confined, are worfe than thofe in the coryza, in which it is evacuated. See CATARRH.

This difeafe is generally preceded by an itching, and by fneezing; fometimes by what is called a gravedo, a congeftion of matter without excretion; this is followed by the excretion of a ferous and vifcous matter by the noftrils and mouth, and fometimes by the eyes; the more thin and acrid this matter is, the more feverely it affects the part through which it is evacuated, fo that fometimes it is attended with a fenfation of pain, and forenefs in them.

Thefe difeafes are very frequent; and among children, they ufually take their rife in them from obftructions of perfpiration, or from fuppreffions of urine. Young people, as they grow farther up, are fubject to them from an abundant quantity of the falival matter: and in more advanced years, thofe people fall into them, in whom nature is not able to relieve herfelf, by a hæmorrhage: and people of phlegmatic habits, and fleepy difpofitions, are moft fubject to them.

The general caufes of thefe defluxions, are the fame with thofe of hæmorrhages by the nofe, that is, a congeftion of blood in the head, by means of a difcharge of which, nature meant to relieve herfelf of a plethora: but in thefe cafes, the blood being very abundant in ferofities, thefe being the thinner part, are moft eafily thrown out, and fo pafs off alone, leaving the red part behind. Sometimes alfo thefe difeafes are produced by a mere retention of the ferous and lymphatic juices in and about the glands of thefe parts; but this is much more rarely the cafe. The occafional or accidental caufes which bring on thefe congeftions and ftagnations, are, the fuppreffion of other evacuations, fuch as habitual and natural diarrhœas, or the evacuations by purging medicines, which perfons had long accuftomed themfelves to at the fpring and autumn feafons: the cold and moift temperature of the air, or a fudden chilling of the body in a hot and moift place: the leaving off a copious ufe of tobacco, and the abufe of fnuff, or other ftrenutatory powders. To this

this is to be added, every thing that impedes natural perspiration, and sometimes suppressions of urine.

The simple coryza and gravedo are attended with no great danger, not even when they are of long standing, provided that the constitution be strong and healthy in other respects. But this is not the case in old and weak people; for in these, this continual defluxion upon the head too often brings on vertiginous complaints, and sometimes paralytic, and even apoplectic disorders, or else asthmas, and suffocative catarrhs, are the consequence: and if this matter, so copiously secreted from the blood, be thrown upon the lungs, it may occasion exulcerations, and even a true phthisis.

This is a disease which few people trouble a physician about, being usually left to nature; but it is, however, in the power of medicine to do great service, and, usually, wholly to remove the complaint; which, even where it is not attended with danger, is so far troublesome, as that any one would wish to be rid of it. In cases of a gravedo, a just and necessary excretion of the congested matter must be provided for; and this may easily be contrived to be made, by less troublesome evacuations than those to which nature seems to point, and by more convenient outlets; and by continuing this method, the future distempers of this kind may be anticipated and prevented. For the ready discharge of the matter, according to the intent of nature, errhines are to be used; the powders of the cephalic herbs, as thyme, betony, lavender, and the like, may be snuffed up the nose, and the volatile pungent salts may be snuffed too: after this, it will be proper to give a gentle purge; and when the cure is perfected, the return may be prevented by bleeding and purging in autumn. When the defluxion is very violent, the use of gentle diaphoretics is recommended, and a powder composed of cinnabar, and a gentle opiate. In cases where the matter of a coryza is very acrid, and there is a violent pain in the head, the external use of camphor is of great service; it is in this case to be applied to the temples, and the patient should at the same time take internally powders composed of nitre, and the common absorbents, and diaphoretic antimony, and afterwards should take some gentle purges, and frequently bathe the feet in warm water.

CORZOLA, or CURSCOLA, an island in the gulph of Venice, divided from Ragusa, in Dalmatia, by a narrow strait: east long. 18°, and north lat. 42° 35′.

COS, the WHET-STONE, in natural history, a genus of vitrescent stones, consisting of fragments of an indeterminate figure, sub-opake and granulated.

Of this genus there are several species, some consisting of rougher and others of smoother, or even of altogether impalpable particles; and used not only for whet-stones, but also for mill-stones and other the like purposes.

COS or KOS. See the article KOS.

COSCINOMANCY, κοσκινομαντεια, among the antients, the art of divination by means of a sieve. It was generally practised to discover thieves, or others suspected of any crime, in this manner: they tied a thread to the sieve, by which it was suspended; or else placed it on the point of a pair of sheers, which they held up by two fingers; then prayed the gods to direct and assist them: after that they repeated the names of the persons under suspicion, and he, at whose name the sieve whirled round, or moved, was thought to have committed the fact. This practice must have been very antient, being mentioned by Theocritus, in his third Idyllion.

CO-SECANT, in geometry, the secant of an arch which is the complement of another to 90°. See the articles SECANT and COMPLEMENT.

COSENAGE, or COGNATION, in law, a writ that lies where the great-grandfather is seized in his demesne, as of fee, at the day of his death, of certain lands and tenements, and dying, a stranger enters and abates: then shall the heir have this writ of cosenage.

COSENZA, the capital of the higher Calabria, in the kingdom of Naples: east long. 16° 35′, and north lat. 39° 15′. It is an archbishop's see.

COSHERING, or COCHERING, in the feudal law, a grievous exaction imposed by a sort of prerogative, or signoral authority of the lords upon their tenants, in lying and feasting, with all their retinue, for sometime at their houses.

CO-SINE, in trigonometry, the sine of an arch, which is the complement of another to 90°. See the article SINE.

COSMETIC, in physic, any medicine or preparation which renders the skin soft and white, or helps to beautify and improve the complexion, as lip salves, cold creams, cerus, &c.

It

It is said that the Indians improve their complexions wonderfully by washing with the water of green cacao-nuts.

COSMICAL, a term in astronomy, expressing one of the poetical risings of a star: thus, a star is said to rise cosmically, when it rises with the sun, or with that point of the ecliptic in which the sun is at that time: and the cosmical setting is when a star sets in the west at the same time that the sun rises in the east.

COSMICAL ASPECT, among astrologers, the aspect of a planet, with respect to the earth. See the article ASPECT.

COSMICAL QUALITIES are, by Mr. Boyle, used in the same sense with systematical ones, or those resulting from the system of the universe.

COSMOGRAPHY, κοσμογραφια, a description of the several parts of the visible world, or the art of delineating the several bodies according to their magnitudes, motions, relations, &c.

Cosmography consists of two parts, astronomy and geography. See the articles ASTRONOMY and GEOGRAPHY.

COSMOLABE, the name of an antient mathematical instrument, resembling the astrolabe, and serving to measure distances both in the heavens and on the earth. See the article ASTROLABE.

COSMOPOLITE, a term denoting a citizen of the world, or one who has no fixed residence any where.

COSSACKS, people inhabiting the banks of the rivers Nieper and Don, near the Black sea and frontiers of Turky. Their country is commonly called the Ukraine, and is mostly subject to Russia.

COSSET, among farmers, a colt, calf, lamb, &c. brought up by hand, without the dam.

COSTÆ, RIBS, in anatomy. See RIBS.

COSTAL, an appellation given by anatomists to several parts belonging to the sides: thus we meet with costal muscles, vertebræ, &c.

COSTA RICA, a province of Mexico, bounded by the North sea on the north-east, and by the Pacific ocean on the south-west. Its chief town is New-Carthage.

COSTARUM DEPRESSORES, in anatomy, that part of the intercostal muscles which lies next the ribs. See the article INTERCOSTAL.

COSTARUM LEVATORES, the same with the supracostales. See SUPRACOSTALES.

COSTIVENESS, *obstructio alvi*, in medicine, a preternatural detention of the fæces, with an unusual driness and hardness thereof, and thence a suppression of their evacuation. See COLIC.

If costiveness proceeds from dry hard excrements, a moistening slippery diet of plums, cherries, or scalded apples, with or without raisins, should be taken; coffee should be also drank with milk: but the most effectual means to remove these obstructions, to raise the spirits, and the languid fibres of the intestines, are gentle purges, such as purging mineral waters, purging salts, sal mirabile Glauberi, warm water, and the common purging potion, as well as the lenitive electuary, and emollient clysters.

Hoffman says an obstinate costiveness is owing generally to spasms in the intestines themselves, or in the lower part of the colon and rectum; or, as propagated by consent from the more remote parts. The suppression of this evacuation produces scybals, generates flatulencies and other grievous symptoms, especially in hypochondriac and hysteric persons: but when this disease is constitutional, it may be borne a long time without danger.

For costiveness in children, Boerhaave recommends absorbents, and orders seven grains of the testaceous powders, three times a day. The nurse must forbear feeding upon any thing that is sour or acid. Harris believes an acid to be so predominant in infants as to cause all their diseases.

COSTMARY, the english name of a species of tanzy. See TANACETUM.

COSTS, in law, signifies the expences of a suit recovered by the plaintiff, together with damages.

COSTUME, a term among painters: thus, a painter must observe the costume; that is, he must make every person and thing sustain its proper character, and not only observe the story, but the circumstances, the scene of action, the country or place, and make the habits, arms, manners, proportions, and the like, to correspond.

COSTUS, in botany, a genus of the monandria-monogynia class of plants, the flower of which consists of three lanceolated, concave, equal petals, placed pretty erect; the fruit is a roundish, coronated, trivalvular capsule with three cells, containing several triangular seeds.

The root of this plant, or the costus arabicus in pharmacy, is an attenuant, a diuretic,

diuretic, and a sudorific: it is given in obstructions of the menses, and in chronic cases, in which there are infarctions of the viscera: its dose is from ten grains to half a dram, but we seldom hear of its being given singly. It is used in the venice treacle, mithridate, and caryocostine electuary. Costus must be chosen recent, dense, odorous, bitterish, and not carious. It pays on importation a duty of $3\frac{87\frac{1}{2}}{100}$d. per pound, and there is a drawback on exportation of $3\frac{40}{100}$d.

CO-TANGENT, the tangent of an arch, which is the complement of another to 90°. See the article TANGENT.

COTICE, or COTISE, in heraldry, is the fourth part of the bend, and with us seldom if ever borne but in couples, with a bend between them. See BEND.

The bend thus bordered, is said to be cotised; as, he bears sable, on a bend cotised argent, three cinquefoils. See plate LXII. fig. 1.

COTINUS, SUMACH, in botany, the name of Tournefort for a genus of the pentandria trigynia class of plants, the flower of which consists of five ovated petals, scarce larger than the cup; the fruit is an oval berry, with one cell containing a single triangular seed. See plate LIV. fig. 5. The whole plant is thought to be extremely drying and astringent: the wood is used in the southern parts of France to dye woollen cloth yellow; and the leaves are used by the tanners for preparing their leather. See the article SUMACH. Linnæus calls this plant Rhus.

COTRONA, a town of the further Calabria, in the kingdom of Naples, situated on the Mediterranean, about fifteen miles south-east of St. Severino: east long. 17° 40′, and north latitude 38° 50′. It is the see of a bishop.

COTTAGE, a little house without lands belonging to it.

COTTON, in commerce, a soft downy matter found on the gossypium of botanists. See the article GOSSYPIUM.

Cotton is separated from the seeds of the plant by a mill, and then spun and prepared for all sorts of fine works, as stockings, waistcoats, quilts, tapestry, curtains, &c. With it they likewise make muslin, and sometimes it is mixed with wool, sometimes with silk, and even with gold itself.

The finest sort comes from Bengal and the coast of Cormandel.

Cotton makes a very considerable article in commerce, and is distinguished into cotton-wool and cotton-thread. The first is brought mostly from Cyprus, St. John d'Acre, and Smyrna: the most esteemed is white, long and soft. Those who buy it in bales should see that it has not been wet, moisture being very prejudicial to it. The price of the finest is usually from six to seven piasters the quintal of forty-four ocos.

Of cotton-thread, that of Damas, called cotton d'once, and that of Jerusalem, called bazas, are the most esteemed; as also that of the Antilles islands. It is to be chosen white, fine, very dry, and evenly spun. The other cotton-threads are the half bazas, the rames, the beledin, and gondezel; the payas and montafiri, the geneguins, the baquins, the josselassars, of which there are two sorts. Those of India, known by the name of Tutucorin, Java, Bengal, and Surat, are of four or five sorts, distinguished by the letters, A, B, C, &c. They are sold in bags, with a deduction of one pound and a half on each of those of Tutucorin, which are the dearest, and two pounds on each bag of the other sorts. For those of Fielebas, Smyrna, Aleppo, and Jerusalem, the deduction at Amsterdam is eight in the hundred for the tare, and two in the hundred for weight, and on the value one *per cent.* for prompt payment.

Cotton of Siam, is a kind of silky cotton in the Antilles, so called because the grain was brought from Siam. It is of an extraordinary fineness, even surpassing silk in softness. They make hose of it there preferable to silk ones, for their lustre and beauty. They sell from ten to twelve and fifteen crowns a pair, but there are very few made, unless for curiosity.

The manner of packing COTTON, *as practised in the Antilles.* The bags are made of coarse cloth, of which they take three ells and a half each: the breadth is one ell three inches. When the bag has been well soaked in water, they hang it up, extending the mouth of it to cross pieces of timber nailed to posts fixed in the ground seven or eight feet high. He who packs it goes into the bag, which is six feet nine inches deep, or thereabouts, and presses down the cotton, which another hands him, with hands and feet; observing to tread it equally every where, and putting

putting in but little at a time. The best time of packing is in rainy moist weather, provided the cotton be under cover. The bag should contain from 300 to 320 pounds. The tare abated in the Antilles is three in the hundred. Cotton being a production applicable to a great variety of manufactures, it cannot be too much cultivated in our own plantations that will admit of it.

Cotton-wool, not of the british plantations, pays on importation $\frac{77}{100}$d. the pound, and draws back on exportation $\frac{67\frac{1}{2}}{100}$d. Cotton yarn the pound, not of the East Indies, pays $2\frac{87\frac{1}{4}}{100}$ d. and draws back $2\frac{58\frac{3}{4}}{100}$d. Cotton yarn the pound, of the East Indies, pays $4\frac{56}{100}$ d. and draws back $4\frac{27}{100}$ d.

Lavender COTTON, a name by which some call the santolina of authors. See the article SANTOLINA.

Philosophic COTTON, a name given to the flowers of zinc, on account of their white colour, and resemblance to cotton.

Silk-COTTON, in botany, the same with the xylon of authors. See XYLON.

COTTON-WEED, a name sometimes given to the gnaphalium, or cudweed, of the generality of authors. See the article GNAPHALIUM.

COTTUS, in ichthyology, a genus of acanthopterygious fishes, distinguished by having six ossicles, or little bones, in the branchiostege membrane: add to this, that the head is prickly, and broader than the body of the fish.

To this genus belong the cottus, called *gobio fluviatilis*, in english the miller's thumb, the quadricornis, scorpæna, cataphractus, and dracunculus.

COTULA, in botany, a genus of the syngenesia-polygamia-superflua class of plants, the compound flower of which is a little convex, and radiated: the hermaphrodite partial flowers stand on the disk, and are very numerous and tubulose, with the limb divided into four or five segments: the stamina are four very small filaments; and the seeds, contained in the cup, are solitary, and of a trigonal or cordated figure. See plate LIII. fig. 4.

COTULA, or COTYLA, in antiquity, a liquid measure among the Greeks, equal to the hemina of the Romans, containing half a sextary, or four acetabula: hence it appears that it contained ten ounces of wine, and nine of oil.

It is observed that the cotula was used as a dry measure as well as liquid one, from the authority of Thucydides, who in one place mentions two cotulæ of wine, and in another two cotulæ of bread.

COTURNIX, the QUAIL, in ornithology, a species of tetrao, with the line of the eye-brows white, said to be the least bird of the whole order of the gallinæ. See the article GALLINÆ.

It is about the size of the fieldfare, and is esteemed at table.

COTYLA, in anatomy, signifies any deep cavity in a bone, in which any other bone is articulated: but it is generally used to express the acetabulum, or cavity which receives the head of the thigh-bone. It also imports a deep sinus surrounded with large lips.

COTYLEDON, NAVELWORT, in botany, a genus of the decandria-pentagynia class of plants, the corolla of which is of a companulato-tubulated form, slightly divided into five segments which are rolled back; the fruit consists of five oblong, ventricose, acuminated capsules, each formed of a single valve, and opening longitudinally inwards: the seeds are numerous and small. See plate LIV. fig. 6.

COTYLEDONES, in anatomy, are certain glandular bodies, adhering to the chorion of some animals: but no such substances are observable in human bodies, the placenta in the womb supplying the place thereof in women. See the article PLACENTA.

COTYTTIA, in antiquity, nocturnal festivals in honour of Cotys, or Cotytta, the goddess of wantonness.

COUARD, or COWARD, in heraldry. See the article COWARD.

COUCH, in painting, a term used for each lay or impression of colour, either in oil or water, wherewith the painter covers his canvas, wall, wainscot, or other matter, to be painted.

The word is also used for a lay or impression on any thing, to make it more firm and consistent, or to screen it from the weather. Thus, paintings are covered with a couch of varnish; a canvas to be painted must have two couches of size, before the colours are laid on; two or three couches of white lead are laid on wood, before the gold is applied. The leather-gilders lay a couch of water and whites

whites of eggs on the leather, before they apply the gold or silver leaf.

The gold wire-drawers also use the word couch for the gold or silver leaf, wherewith they cover the mass to be gilded or silvered. The gilders use the term couch, for the quantity of gold or silver leaves applied on the metals in gilding and silvering.

COUCH, or WET-COUCH, in malt-making. See the article MALT.

COUCHANT, in heraldry, is understood of a lion, or other beast, when lying down, but with his head raised, which distinguishes the posture of couchant from dormant, wherein he is supposed quite stretched out and asleep. See plate LIV. fig. 2.

COUCHE', in heraldry, denotes any thing lying along: thus, chevron couché, is a chevron lying sideways, with the two ends on one side of the shield, which should properly rest on the base.

COUCHING *of a Cataract*, in surgery, one of the two chief methods of curing a cataract, by couching with the needle. See the article CATARACT.

Under the article cataract, the internal and external remedies for the cure of that disorder, have been prescribed. Now when recourse must be had to couching, the method of treating it is as follows: having placed the patient in a convenient light and posture, let the other eye be covered to prevent its rolling: then let the superior eye-lid of that eye affected be lifted up, and the inferior one depressed: this done, strike the needle through the tunica conjunctiva, something less than one tenth of an inch from the cornea, even with the middle of the pupil, into the posterior chamber; and gently endeavour to depress the cataract with the flat surface of it. If after it is dislodged it rises again, it must again and again be pushed down. If it is membranous, after the discharge of the fluid, the pellicle must be more broken and depressed. If it is uniformly fluid, or exceedingly elastic, they should not endanger an inflammation by a vain attempt to succeed.

Taylor has described a new method of couching the cataract by the needle: he, securing the affected eye by a speculum oculi, with a knife, bistory, or lancet, makes a longitudinal incision, through the membranes of the eye, to the vitreous humour, about half a line below the ordinary place: then he directly passes a slender plano-convex needle into the eye, through the incision, with the convex part of it turned upwards, to the inferior part of the crystalline humour; after which he gently elevates the point of the needle a little, till he perceives a faint resistance from the crystalline humour lying above it, and observes its motions through the pupil. When, from these signs, he knows that the apex of the needle is immediately under the capsule of the crystalline humour, he thrusts it downwards to the bottom, in order to divide the vitreous humour, and prepare a space for the reception of the crystalline humour, which is afterwards to be depressed. After this he withdraws about two lines of the needle, and introduces it into the inferior part of the coat of the crystalline humour, the situation of which he carefully observes, *&c.*

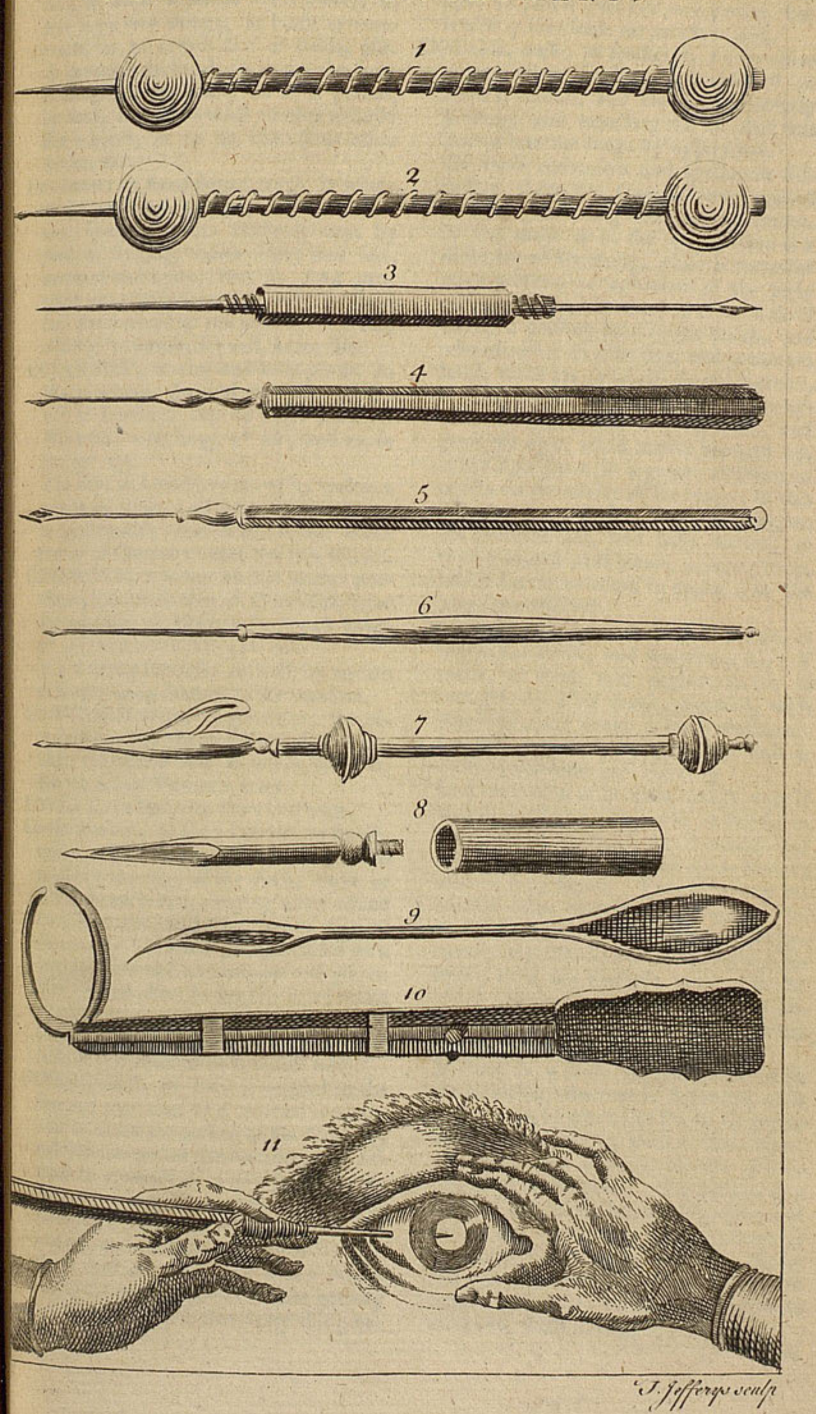
Heister remarks upon Taylor's treatise of couching, that it is swelled and obscured with frivolous cautions and circumstances; and that his method of operation is necessarily followed with excruciating pains, violent inflammations, and a suppuration of the eye, instead of recovering the patient's sight.

After couching, it is thought proper immediately to defend the eye with a compress dipt in some collyrium, secured by a handkerchief, that the retina may not be injured by a too strong action of the light; and lest, by the patient's straining his eye too soon, the cataract be elevated again. It will also be convenient to bleed the patient a few hours after the operation. With regard to the subsequent dressings, it will be convenient to repeat the former four or five times a day. The needles used in this operation are represented in plate LV. and marked 1, 2, 3, 4, 5, 6, 7, 8, 9. The speculum is marked 10, and the method of performing the operation, 11.

COVENANT, a compact or agreement, made between two or more persons, to perform something.

A covenant is either in fact or in law. A covenant in fact, is that which is expressly agreed on between the parties. In law, it is that covenant which the law intends and implies, though it be not expressed in terms: as where a person grants a lease of a house, *&c.* for a certain term, the law will intend a covenant on the lessor's part, that the lessee shall quietly enjoy the premisses during the term against all incumbrances.

There


COUCHING INSTRUMENTS
1
2
3
4
5
6
7
8
9
10
11
J. Jefferys sculp

There is alſo a covenant real, and a covenant merely perſonal. A covenant real, is when a perſon binds himſelf to paſs ſome real things, as lands or tenements, or to levy a fine of lands, *&c.* A covenant perſonal, is when the ſame is altogether perſonal; as if a perſon, by deed, covenants with another to build him a houſe, or to do him ſome other ſervice, *&c.*

COVENANT *to ſtand ſeized to uſe*, is where a man who has a wife, children, brother, ſiſter, or other kindred, does by deed in writing, under hand and ſeal, covenant and agree, that for their proviſion or preferment, he and his heirs ſhall ſtand ſeized of the land to their uſe, either in fee ſimple, fee tail, or for life.

COVENTRY, a city and biſhop's ſee in Warwickſhire, ſituated 80 miles northweſt of London, and 10 miles north of Warwick: weſt long. 1° 26′, and north lat. 52° 25′.

The city, and territory about it, makes a county of itſelf, and ſends two members to parliament; and from it the noble family of Coventry takes the title of earl.

COVERDEN, a town of the united provinces, ſituated in that of Overyſſel, near the confines of Weſtphalia: eaſt long. 6° 45′, and north lat. 52° 50′.

It is a ſtrong fortreſs, as well by nature as by art, being ſituated in the marſhes.

CO-VERSED SINE, in geometry, the remaining part of the diameter of a circle, after the verſed ſine is taken from it. See the article VERSED SINE.

COVERT, in law, ſee COVERTURE.

COVERT WAY, or CORRIDOR, in fortification, a ſpace of ground, level with the field, on the edge of the ditch, three or four fathoms broad, ranging quite round the half moons, and other works toward the country. It has a parapet raiſed on a level, together with its banquets and glacis. The greateſt effort in ſieges, is to make a lodgment on the covert-way, becauſe the beſieged uſually palliſade it along the middle, and undermine it on all ſides.

COVERTURE, in law, is applied to the ſtate and condition of a married woman, who is under the power of her huſband, and therefore called *feme covert*; and diſabled to contract with any perſon to the detriment either of herſelf or huſband, without his conſent and privity; or allowance and confirmation thereof.

If the huſband alien the wife's lands, during the marriage, ſhe cannot gainſay it, while he lives; ſo that every thing belonging to the wife is in the power of the huſband, inſomuch that ſhe is ſaid to have no power over her own perſon, but is alſo in that ſenſe *ſub poteſtate viri.*

COUGH, *tuſſis*, in medicine, a convulſive motion of the diaphragm, muſcles of the larynx, thorax, and abdomen, violently ſhaking, and expelling the air that was drawn into the lungs by inſpiration.

Of theſe convulſive and ſpaſmodic diſorders there are ſeveral kinds, called coughs, proceeding from various cauſes. If the cauſe is in the lungs, there is a difficulty of breathing, which is increaſed upon motion, or agitation of the body or blood: likewiſe there is often a ſhrill voice, a preſſing pain in the breaſt, and a hoarſeneſs. If it be dry, and continues long, there are generally hard tubercles, or vomicæ, full of matter, and the cough is conſumptive: but if it be moiſt, and great plenty of viſcid matter brought up, it is a ſign there is a great collection of matter in the cavity of the lungs: in this diſorder there is a difficulty of lying on the affected ſide, and pure matter, or matter mixed with blood, is brought up, which leaves no room to doubt that the lungs are affected.

Tuſſis ſtomachalis, or a ſtomach-cough, is ſometimes moiſt, and ſometimes dry: if moiſt, a thick and copious ſpittle is brought up after meals, generally with vomiting; the cough is more violent after pectorals and ſweet things, and is moſt troubleſome in a morning.

In a convulſive or hooping-cough, that is violent and dry, the cauſe is chiefly in the nervous coats of the ſtomach, and there is a violent concuſſion of the thorax, with a deep ſound. This is greatly increaſed after cold drink, or acids. In this obſtinate cough, the hypochondria generally are diſordered, or there is a ſcorbutic, or a ſalt diatheſis mixt with the blood; wherefore this cough is not unfrequently attended with a miliary fever. See the article CHIN-COUGH.

If there is a thick coagulated mucus in the bronchia, the root of florentine-orris is proper to be taken: or five or ſix grains of powder of ſquills, with a little nitre, or precipitated ſulphur, flowers of ſulphur, and ſpermaceti. When there is a thin ſalt defluxion, jellies are proper, and decoctions made with barley, ſhavings of hartſhorn, viper-graſs root, and liquorice: or the decoction of turpentine with ſugar; and above all things oil of ſweet almonds, freſh drawn.

When

When a tuffis catarrhalis affects the whole habit of body, with a lofs of appetite, and a tabes, the cure muft be attempted with affes milk, or whey, or milk with equal parts of Selters water. In a moift, lafting, pituitous cough, the body muft be kept open with manna, two ounces, at leaft, diffolved; to which may be added two drams of terra foliata tartari, and a few drops of oil of annifeed. If the ftomach will not bear laxatives, clyfters muft be ufed.

When the cough is outrageous, faffron, mixt with bezoardics is very friendly to the breaft: nor are ftorax-pills, mixt with the aromatic pills, lefs beneficial. In the *tuffis ferina*, or cough of the moft violent kind, arifing from the ftriking in of exanthemata, that is, fpots or breakings out of the fkin, æthiops mineral is an admirable remedy; or flowers of fulphur taken inwardly, in the evening, with diaphoretic antimony: likewife frictions of the feet and pediluvia are more ufeful to draw ferum from the breaft than blifters. The patient fhould, as much as poffible, breathe a temperate air, fhunning all falted and fmoke dried meats, poignant fauces, malt-liquors, and more efpecially acid wines. The drink fhould be hydromel, or, if the patient is fcorbutic, water alone, the cold being firft taken off with toafted bread. The vulgar, not without fuccefs, pour hot water upon wheat bran, and drink the infufion cold. As to bleeding in this difeafe, it is neceffary for thofe who are full of blood. See the article COLD.

Blifters may be ufed in obftinate cafes.

COVIN, among lawyers, a deceitful compact between two or more to deceive or prejudice another perfon. It is generally ufed in and about conveyances of land by fine, feoffment, &c. wherein it tends to defeat purchafers of the land they purchafe, and creditors of their juft debts. It is fometimes made ufe of in fuits at law, and judgments therein had. But wherever covin is, it fhall never be intended unlefs it be particularly found by the jury.

COVING, in building, is when houfes are built projecting over the ground-plot, and the turned projecture arched with timber, lathed and plaiftered.

COVING CORNICHE. See CORNICHE.

COUL, or COWL. See the article COWL.

COULTER, in hufbandry, an iron inftrument, fixed in the beam of a plough, and ferving to cut the edge of each furrow. See the article PLOUGH.

COULTER-NEB, in ornithology, the name by which fome call a fpecies of duck, fmaller than the common kind, and with the beak flatted on both fides.

COUNCIL, or COUNSEL, in a general fenfe, an affembly of divers confiderable perfons to concert meafures relating to the ftate.

Aulic COUNCIL. See the article AULIC.

Cabinet COUNCIL. See the article *Privy*-COUNCIL, *infra*.

Common-COUNCIL, in the city of London, is a court wherein are made all bye-laws which bind the citizens. It confifts, like the parliament, of two houfes, an upper, compofed of the lord mayor and aldermen; and a lower, of a number of common-council-men chofen by the feveral wards, as reprefentatives of the body of the citizens.

Privy-COUNCIL, the primum mobile of the civil government of Great Britain, bearing part of that great weight in the government which otherwife would be too heavy upon the king.

It is compofed of eminent perfons, the number of whom is at the fovereign's pleafure, who are bound by oath to advife the king to the beft of their judgment, with all the fidelity and fecrecy that becomes their ftation. The king may declare to, or conceal from, his privy-council whatever he thinks fit, and has a felect council out of their number commonly called the *cabinet council*, with whom his majefty determines fuch matters as are moft important, and require the utmoft fecrecy. All proclamations from the king and the privy-council, ought to be grounded on law, otherwife they are not binding to the fubject.

Privy-counfellors, tho' but gentlemen, have precedence of all the knights and younger fons of barons and vifcounts, and are ftiled right honourable.

COUNCIL *of war*, an affembly of the principal officers of an army or fleet, occafionally called by the general or admiral to concert meafures for their conduct with regard to fieges, retreats, engagements, &c.

In the french polity, councils are very numerous. They have their council of ftate, council of finances, council of difpatches, council of directions, grand council, council of the regency, council of confcience, &c.

COUNCIL, in church-hiftory, an affembly of prelates and doctors met, for the regulating matters relating to the doctrine, or difcipline, of the church.

National COUNCIL, is an aſſembly of prelates of a nation under their primate or patriarch. See PRIMATE, *&c.*

Oecumenical or general COUNCIL, is an aſſembly which repreſents the whole body of the univerſal church. The romaniſts reckon eighteen of them; Bullinger, in his treatiſe de Conciliis, ſix; Dr. Prideaux, ſeven; and Biſhop Beveridge has increaſed the number to eight, which, he ſays, are all the general councils which have ever been held ſince the time of the firſt chriſtian emperor. They are as follows. 1. The council of Nice, held in the reign of Conſtantine the great, on account of the hereſy of Arius. 2. The council of Conſtantinople, called under the reign and by the command of Theodoſius the great, for much the ſame end that the former council was ſummoned. 3. The council of Epheſus, convened by Theodoſius the younger, at the ſuit of Neſtorius. 4. The council of Chalcedon, held in the reign of Martianus, which approved of the Eutychian hereſy. 5. The ſecond council of Conſtantinople, aſſembled by the emperor Juſtinian, condemned the three chapters taken out of the books of Theodorus of Mopſueſtia, having firſt decided that it was lawful to anathematize the dead. Some authors tell us, that they likewiſe condemned the ſeveral errors of Origen about the trinity, the plurality of worlds, and the pre-exiſtence of ſouls. 6. The third council of Conſtantinople, held by the command of Conſtantinus Pogonatus the emperor, in which they received the definitions of the five firſt general councils, and particularly that againſt Origen and Theodorus of Mopſueſtia. 7. The ſecond Nicene council. 8. The fourth council of Conſtantinople, aſſembled when Lewis II. was emperor of the weſt. The regulations which they made are contained in twenty-ſeven canons, the heads of which are ſet down by Mr. Du Pin, to whom the reader is referred.

Provincial COUNCIL, an aſſembly of prelates of a province under the metropolitan. See the articles PROVINCE and CONVOCATION.

COUNSELLOR, in general, a perſon who adviſes another: thus we ſay, a counſellor at law, a privy-counſellor, *&c.*

COUNSELLOR *at law*, a perſon retained by a client to plead his cauſe in a public court of judicature. He has a privilege to enforce any thing of which he is informed by his client, if the ſame be pertinent to the matter in hand, and is not obliged to examine whether it be true or falſe, it being at the peril of the perſon who informs him. And notwithſtanding counſellors have a ſpecial privilege to practiſe the law, yet they are puniſhable for miſbehaviour by attachment. No counſel is allowed to a priſoner upon a general iſſue of indictment of felony, unleſs ſome point of law ariſe; for the court is the priſoner's only counſel.

Privy COUNSELLOR. See the article COUNCIL, *ſupra.*

COUNT, *comes*, a nobleman who poſſeſſes a domain erected into a county. The dignity is a medium between that of a duke and a baron. See the article EARL. Counts were originally lords of the court, or of the emperor's retinue, and had their name comites *a comitando*. Euſebius tells us, that Conſtantine divided them into three claſſes, of the two firſt the ſenate was compoſed: thoſe of the third had no place in the ſenate, but enjoyed ſeveral other privileges of ſenators. There were counts that ſerved on land, others at ſea; ſome in a civil, and ſome in a legal capacity. The quality of count is now no more than a title which a king grants upon erecting a territory into a county, with a reſerve of juriſdiction and ſovereignty to himſelf. A count has a right to bear on his arms a coronet adorned with three precious ſtones, and ſurmounted with three large pearls, whereof theſe in the middle, and extremities of the coronet advance above the reſt. See CROWN.

COUNT, in law, ſignifies the original declaration of complaint in a real action, as a declaration is in a perſonal one.

COUNT-WHEEL, in the ſtriking part of a clock, a wheel which moves round once in twelve or twenty-four hours. It is ſometimes called the locking wheel. See the article CLOCK.

COUNTER, a term which enters into the compoſition of divers words of our language, and generally implies oppoſition; but when applied to deeds, means an exact copy kept by the contrary party, and ſometimes ſigned by both parties.

COUNTER ALLEY, in gardening. See the article ALLEY.

COUNTER APPROACHES, in fortification, lines and trenches made by the beſieged in order to attack the works of the beſiegers, or to hinder their approaches.

Line of COUNTER APPROACH, a trench which the beſieged make from their covered way to the right and left of the attacks,

attacks, in order to fcour the enemies works. This line muft be perfectly enfiladed from the covered way and the half moon, that it may be of no fervice to the enemy, in cafe he get poffeffion of it.

COUNTER-BARRY, or CONTRE-BARRE′, in heraldry, is the fame as our bendy finifter per bend counterchanged. See the article BARRY.

COUNTER BATTERY, is a battery raifed to play upon another to difmount the guns. See the article BATTERY.

COUNTER BOND, a bond of indemnification, given to one who has given his bond as a fecurity for another's payment of a debt, or the faithful difcharge of his office or truft.

COUNTER BREAST-WORK, in fortification. See FAUSSE-BRAYE.

COUNTER CHANGED, in heraldry, is when any field or charge is divided or parted by any line or lines of partition, confifting all interchangeably of the fame tinctures. See plate LXII. fig. 2. n° 1.

COUNTER-CHARGE, a reciprocal charge or recrimination brought againft an accufer.

COUNTER CHEVRONED, a fhield chevrony, parted by one or more partition lines.

COUNTER-COMPONED, in heraldry, is when the figure is compounded of two panes, as in plate LXII. fig. 2. n°. 2.

COUNTER DEED, a fecret writing either before a notary or under a private feal, which deftroys, invalidates, or alters a public one.

COUNTER-DRAWING, in painting, is the copying a defign, or painting, by means of a fine linen-cloth, an oiled paper, or other tranfparent matter, where the ftrokes appearing through are followed with a pencil, with or without colour. Sometimes it is done on glafs, and with frames or nets divided into fquares with filk or with thread, and alfo by means of inftruments invented for the purpofe, as the parallelogram.

COUNTER-ERMINE, in heraldry, is the contrary to ermine, being a black field with white fpots. See plate LXII. fig. 2. n°. 3.

COUNTERFEIT ARCHITECTURE. See the article ARCHITECTURE.

COUNTERFEITS, in our law, are perfons that obtain any money or goods by counterfeit letters or falfe tokens, who being convicted before juftices of affize, or of the peace, &c. are to fuffer fuch punifhment as fhall be thought fit to be inflicted under death, as imprifonment, pillory, &c.

COUNTER-FISSURE. See the article CONTRA FISSURE.

COUNTER-FACED, or CONTRE-FACE′, in heraldry, is the fame that we call barry per pale counterchanged; but then the number of panes into which the field is divided, is always fpecified. See BARRY.

COUNTER-FOIL, or COUNTER-STOCK, in the exchequer, that part of a tally which is kept by an officer of the court. See the article TALLY.

COUNTER-FORTS, fpurs or buttreffes, ferving as props to a wall fubject to bulge or be thrown down.

COUNTER-FUGUE, in mufic, is when the fugues go contrary to one another. See the article FUGUE.

COUNTER-GAGE, in carpentry, a method ufed in meafuring the joints. For example, they transfer the breadth of a mortife to the place in the timber where the tenon is to be, in order to make them fit each other.

COUNTER-GUARD, in fortification, is a work raifed before the point of a baftion, confifting of two long faces parallel to the faces of the baftion, making a falliant angle: they are fometimes of other fhapes, or otherwife fituated. See the article ENVELOPE.

COUNTER-HARMONICAL. See the article CONTRA-HARMONICAL.

COUNTER-INDICATION. See the article CONTRA-INDICATION.

COUNTER-LIGHT, or CONTRE-JOUR, a light oppofite to any thing, which makes it appear to difadvantage. A fingle counter-light is fufficient to take away all the beauty of a fine painting.

COUNTERMAND, in the englifh law, is where a thing before executed is by fome act or ceremony afterwards made void by the party that did it. A countermand may be either actual or implied: actual, where a power to execute any authority is, by a formal writing or deed for that purpofe, put off for a time, or made void: implied, when a perfon makes his laft will and teftament, whereby he devifes his land to fuch an one, and afterwards conveys the fame land to another by feoffment.

COUNTER-MARCH, in military affairs, a change of the face or wings of a battalion, by which means thofe that were in the front come to be in the rear.

It alfo fignifies returning, or marching back again.

Counter-mark, a mark put upon goods that have been marked before. It is alſo uſed for the ſeveral marks put upon goods belonging to ſeveral perſons, to ſhew that they muſt not be opened but in the preſence of them all or their agents.

In goldſmiths works, the counter-mark is the mark punched upon the work at the hall, to ſhew that the metal is ſtandard. With horſe-jockies, the counter-mark is an artful hole made in the teeth of old horſes, to make them paſs for horſes of ſix years old. Counter-mark of a medal is a mark added to it a long time after its being ſtruck. It is ſometimes an emperor's head, ſometimes a cornucopia, *&c.* Counter-marks are diſtinguiſhed from the monograms in this, that being ſtruck after the medal, they are indented; whereas the monograms being ſtruck at the ſame time with the medals, have a little relievo.

Counter-mine, in war, a well and gallery drove and ſunk till it meet the enemy's mine, to prevent its effect.

Counter mure, a wall built cloſe to another, that it may not receive any damage from the contiguous buildings.

Counter-mure, in fortification. See the article Contramure.

Counter-paled, *contre-pallé,* in heraldry, is when the eſcutcheon is divided into twelve pales parted per feſſe, the two colours being counterchanged; ſo that the upper are of one colour, and the lower of another.

Counterpart, in muſic, denotes one part to be applied to another. Thus the baſs is ſaid to be a counterpart to the treble. In law, it is the duplicate or copy of any indenture or deed.

Counter-passant, is when two lions are in a coat of arms, and the one ſeems to go quite the contrary way from the other.

Counter-plea, in law, a croſs or contrary plea, particularly ſuch as the demandant alleges againſt a tenant in courteſy, or dower, who prays the king's aid, *&c.* for his defence.

Counter-point, in muſic, the art of compoſing harmony, or of diſpoſing ſeveral parts in ſuch a manner as to make an agreeable whole or a concert. In general, every harmonious compoſition, or compoſition of many parts, is called counter point. It took its name from hence: before notes of different meaſures were invented, the manner of compoſing was to ſet pricks or points one againſt another, to denote the ſeveral concords.

Counter-point is divided into ſimple and figurative, agreeably to the diviſion of harmony into the harmony of concords and that of diſcords.

Simple counterpoint, or the harmony of concords, conſiſts of the perfect as well as the imperfect concords, and may be therefore denominated perfect or imperfect, according as the concords are, whereof it is compoſed. Thus the harmony ariſing from a conjunction of any note with its fifth and octave, is perfect; but with its third and ſixth, imperfect: notwithſtanding this, the compoſition is perfect; it is the particular concords only, that are called imperfect. Now to diſpoſe the concords, or the natural notes and their octaves, in any key in a ſimple counterpoint, obſerve with regard to the diſtinction into perfect or imperfect harmony, this general rule. To the key to the fourth and to the fifth, perfect harmony muſt be joined; to the ſecond, third, and ſeventh, an imperfect harmony is indiſpenſible; to the ſixth, either a perfect or imperfect harmony. But when you keep the key, an imperfect harmony is given the ſixth. In the compoſition of two parts, obſerve, that tho' a third appears only in the treble, or the fourth and the fifth, yet the perfect harmony of the fifth is always ſuppoſed, and muſt be ſupplied in the accompaniments of the thorough baſs to thoſe fundamental notes. For the rules of counterpoint, with regard to the ſucceſſion of concords, it muſt be obſerved, that as much as can be, the parts may proceed by a contrary motion; that is, the baſs may deſcend where the treble aſcends and *vice verſa.* If in a ſharp key the baſs deſcend gradually from the fifth to the fourth, the laſt in that caſe muſt never have its proper harmony applied to it, but the notes that were harmony in the preceding fifth muſt be continued on the fourth: thirds and fifths may follow one another, as often as one has a mind.

Figurative counterpoint is of two kinds. In one, diſcords are introduced occaſionally as paſſing notes, ſerving only as tranſitions from concord to concord: in the other, the diſcord bears a chief part in the harmony. See Discord.

For the firſt, nothing but concords are to be uſed in the accented parts of the meaſure: in the unaccented parts, diſcords may paſs without any offence to the ear. This is called by moſt authors ſuppoſition. See Supposition.

For the fecond, in which the difcords are ufed as a folid and fubftantial part of the harmony, the difcords that have place are the fifth, when joined with the fixth, to which it ftands in relation of a difcord; the fourth, when joined with the fifth; the ninth, which is the effect of the fecond and feventh, and the fecond and fourth. Thefe difcords are introduced into harmony with due preparation, and are to be fucceeded by concords, which is called the refolution of difcords. Now to introduce difcords into harmony, it muft be confidered what concord may ferve for their preparation and refolution. The fifth then may be prepared either by an octave, fifth, or third, and refolved either by third or fixth. The fourth may be prepared in all concords, and may be refolved into the fixth, third, or octave. The ninth may be prepared in all concords except an octave, and may be refolved into third, fixth, and octave. The feventh may be prepared in all concords, and refolved into third, fixth, or fifth. The fecond and fourth are ufed very differently from the reft, being prepared and refolved into the bafs. See the articles HARMONY, CONCORD, DISCORD, KEY, CLEF, MODULATION, *&c.*

COUNTER-POINTED, *contre pointé*, in heraldry, is when two chevrons in one efcutcheon meet in the points, the one rifing as ufual from the bafe, and the other inverted falling from the chief; fo that they are counter to one another in the points. They may alfo be counterpointed when they are founded upon the fides of the fhield, and the points meet that way, called counterpointed in feffe.

COUNTERPOISE, in the manege, is the liberty of the action and feat of a horfeman; fo that in all the motions made by the horfe, he does not incline his body more to one fide than to the other, but continues in the middle of the faddle, bearing equally on his ftirrups, in order to give the horfe the proper and feafonable aids.

COUNTERPOISE is alfo a piece of metal called by fome the pear, on account of its figure, and the mafs, by reafon of its weight, which fliding along the beam, determines the weight of bodies weighed by the ftatera romana. See the article BALLANCE.

COUNTER-POISON, an antidote or medicine which prevents the effects of poifon. See the article POISON.

COUNTER-POTENT, *contre-potencé*, in heraldry is reckoned a fur as well as vair and ermine, but compofed of fuch pieces as reprefent the tops of crutches, called in french *potences*, and in old englifh *potents*.

COUNTER-PROOF, in rolling-prefs printing, a print taken off from another frefh printed; which by being paffed thro' the prefs gives the figure of the former, but inverted. To counter-prove is alfo to pafs a defign in black-lead, or red-chalk, through the prefs, after having moiftened with a fpunge both that and the paper on which the counter-proof is to be taken.

COUNTER-QUARTERED, *contre-ecartelé*, in heraldry, denotes the efcutcheon, after being quartered, to have each quarter again divided into two.

COUNTER-ROLLS, are the rolls that fheriffs of counties have with the coroners of their procedings, as well of appeals as of inquefts.

COUNTER-ROUND, a body of officers going to infpect the rounds.

COUNTER-SALIENT, is when two beafts are borne in a coat leaping from each other directly the contrary way.

COUNTER-SCARP, in fortification, is properly the exterior talus or flop of the ditch; but it is often taken for the covered way and the glacis. In this fenfe we fay, the enemy have lodged themfelves on the counter-fcarp.

Angle of the COUNTER-SCARP, is that made by the two fides of the counter-fcarp meeting before the middle of the curtin.

COUNTER-SIGNING, the figning the writing of a fuperior in quality of fecretary. Thus charters are figned by the king, and counterfigned by a fecretary of ftate or lord chancellor.

COUNTER-SWALLOW-TAIL, in fortification, an out-work in form of a fingle tenaille, wider at the gorge than the head.

COUNTER-TALLY, one of the two tallies upon which any thing is fcored.

COUNTER-TENOR, called by the French *haut-contre*, one of the middle parts of mufic oppofite to the tenor. See the article TENOR.

COUNTER-TIME, in the manege, is the defence or refiftance of a horfe that interrupts his cadence, and the meafure of his manege, occafioned either by a bad horfeman, or by the malice of the horfe.

COUNTER-TRENCH, in fortification. See the article COUNTER-APPROACHES.

COUNTER-TRIPPING, is when two beafts are borne in a coat in a walking pofture, the

the head of the one being next the tail of the other.

COUNTER-VALLATION, in the military art, a ditch made round a besieged place, to prevent the garrison from making sallies. See CONTRAVALLATION.

COUNTER-WORKING, the raising of works to oppose those of the enemy.

COUNTER is also the name of a counting-board in a shop, and of a piece of metal with a stamp on it, used in playing at cards.

COUNTER *of a horse*, that part of a horse's forehand which lies between the shoulders and under the neck.

COUNTERS *in a ship*, are two: 1. The hollow arching from the gallery to the lower part of the straight piece of the stern, is called the upper counter. 2. The lower counter is between the transom and the lower part of the gallery.

COUNTER is also the name of two prisons in the city of London, *viz.* the Poultry and Woodstreet.

COUNTORS, such serjeants at law as a person retains to defend his cause, and speak for him in any court for their fees; being antiently called serjeant-counters.

COUNTING, or ACCOUNTING. See the article ACCOUNTING.

COUNTRY, among geographers, is used indifferently to denote either a kingdom, province, or lesser district. But its most frequent use is in contradistinction to town: thus it is said, that such a man went down into the country.

Among miners, the term countries is an appellation given to works under ground. See the article MINE.

COUNTRY-WAKE. See WAKE.

Fast COUNTRY, or SHELF. See the article SHELF.

COUNTY, in geography, originally signified the territory of a count or earl, but now it is used in the same sense with shire. See the article SHIRE.

England, for the better government thereof, and the more easy administration of justice, is divided into fifty-two counties, each whereof is subdivided into rapes, lathes, wapentakes, hundreds; and these again into tythings. For the execution of the laws in the several counties, excepting Cumberland, Westmoreland, and Durham, every Michaelmas term officers are appointed, called sheriffs: other officers of the several counties are lord-lieutenants, custodes rotulorum, justices of the peace, bailiffs, high constables, coroner, clerks of the market, &c.

Of the fifty-two counties in England and Wales, there are four termed counties-palatine, *viz.* Lancaster, Chester, Durham, and Ely: these counties are reckoned among the superior courts, and are privileged as to pleas, so that no inhabitant of such counties shall be compelled by any writ to appear, or answer the same, except for error, and in cases of treason, &c.

The counties-palatine of Durham and Chester are by prescription, where the king's writs ought not to come, but under the seal of the counties palatine, unless it be a writ of proclamation. There is a court of chancery in the counties-palatine of Lancaster and Durham, over which there are chancellors. See the article CHANCELLOR.

Scotland is divided into thirty-three counties, the government of which is committed to sheriffs. See SHERIFF.

COUNTY-CORPORATE, a title given to several cities on which the english monarchs have thought proper to bestow extraordinary privileges, annexing to them a particular territory of land, or jurisdiction as the county of Middlesex, annexed to the city of London, the county of the city of York, the county of the city of Bristol, &c.

COUNTY-COURT, a court of justice, held every month in each county, by the sheriff or his deputy. See COURT.

This court has the determination of debts and trespasses under forty shillings.

COUP DE BRIDE, in the manege, the same with ebrillade. See EBRILLADE.

COUPED, *coupé*, in heraldry, is used to express the head, or any limb, of an animal, cut off from the trunk, smooth; distinguishing it from that which is called erased, that is, forcibly torn off, and therefore is ragged and uneven.

COUPED is also used to signify such crosses, bars, bends, chevrons, &c. as do not touch the sides of the escutcheon, but are, as it were, cut off from them.

COUPER, COWPER, or COOPER, the name of two towns of Scotland, the one situated about twelve miles north-east of Perth, in the shire of Angus, west long. 3°, and north lat. 56° 30′; and the other in the county of Fife, about ten miles west of St. Andrews: west long. 2° 40′, and north lat. 56° 20′.

COUPLE-CLOSS, in heraldry, the fourth part of a chevron, never borne but in pairs, excep

except there be a chevron between them, ſaith Guillim, though Bloom gives an inſtance to the contrary.

COUPLET, a diviſion of a hymn, ode, ſong, &c. wherein an equal number, or equal meaſure, of verſes is found in each part; which diviſion, in odes, are called ſtrophes. See the article STROPHE.

Couplet, by an abuſe of the word, is frequently made to ſignify a couple of verſes.

COURANT, or CURRANT, in a general ſenſe, expreſſes the preſent time, as we ſay, the year 1763 is the currant year; the 20th day of this currant month, that is, this preſent year and month.

COURANT, in a commercial ſenſe, any thing that has a courſe, or is received in commerce; as the courant coin, &c. alſo the ordinary and known price of goods, &c. in which ſenſe we ſay, the price courant.

COURANT, in muſic and dancing, is uſed to expreſs the air and tune, and the dance to it.

With regard to muſic, courant is a piece of muſical compoſition in a triple time, and is ordinarily noted in a triple of minims, the parts to be repeated twice.

It begins and ends when he, who beats the meaſure, falls his hand with a ſmall note before the beat; in contradiſtinction from the ſaraband, which ordinarily ends when the hand is raiſed.

With regard to dancing, it conſiſts of a time, a ſtep, a balance, and a coupee; admitting alſo of other motions.

COURIER, a meſſenger ſent poſt, or expreſs, to carry diſpatches. See POST.

Couriers are diſtinguiſhed into four kinds, *viz.* thoſe on horſeback, thoſe in chariots, thoſe in boats, and thoſe on foot; which laſt kind is uſed in Italy, Turkey, and Peru: they were called by the Greeks *hemerodromi:* ſeveral of the antient writers mention, that ſome of theſe would go thirty, thirty-ſix, and, in the circus, even forty leagues a day; but it does not appear, that either the Greeks or Romans had any regular couriers till the time of Auguſtus.

COURLAND, a dutchy ſituated between 21° and 26° of eaſt longitude, and between 56° 30′, and 57° 30′ north latitude. It is bounded by the river Dwina, which divides it from Livonia, on the north; by Lithuania, on the eaſt; by Samogitia, on the ſouth; and by the Baltic ſea, on the weſt, being 130 miles long, and 30 broad. It is uſually reckoned a part of Poland; but it is to be obſerved, that the Courlanders not only elect their own princes, but are governed by their own laws. Its Capital is Mittau.

COURSE, in navigation, that point of the compaſs, or horizon, on which the ſhip ſteers: or the angle between the rhumb-line and the meridian. See the articles SAILING, RHUMB LINE, and MERIDIAN.

COURSE, in architecture, a continued range of ſtones, level, or of the ſame height throughout the whole length of the building, without being interrupted by any aperture.

COURSE *of plinths,* the continuity of a plinth of ſtone, or plaiſter, in the face of a building, to mark the ſeparation of the ſtones.

COURSES, in a ſhip, the mainſail and foreſail: when the ſhip ſails under them only, without lacing on any bonnets, ſhe is then ſaid to go under a pair of courſes. To ſail under a main courſe and bonnets, is to ſail under a mainſail and bonnet.

COURSE is uſed for a collection or body of laws, canons, or the like. As, the civil courſe is the collection of the roman law compiled by order of Juſtinian: canonical courſe, the collection of the canon law, made by Gratian. See the articles CIVIL-LAW and CANON LAW.

COURSE is alſo made to expreſs the elements of an art, explained either by experiment or writing.

COURSE is alſo applied for the time ſpent in learning the elements of a ſcience: as a ſtudent is ſaid to go through his courſes of philoſophy, divinity, mathematics, &c. at the univerſity.

COURSE *of the moon.* See MOON.

Complement of the COURSE. See the article COMPLEMENT.

COURSE *of a river.* See RIVER.

COURSING, among ſportſmen, is of three ſorts, *viz.* at the deer, at the hare, and at the fox. Theſe courſings are with greyhounds; for the deer there are two ſorts of courſings, the one with the paddock, the other, either in the foreſt, or purlieu. See the article PADDOCK, &c.

In courſing the hare, the beſt way is to find one ſitting, and when ſhe is firſt ſtarted, to give her ground, or law, which is generally twelve-ſcore yards. In courſing a fox, you are to ſtand cloſe, and on a clear wind.

COURT, *curia,* in a law ſenſe, the place where judges diſtribute juſtice, or exer-

ciſe

cise jurisdiction: also the assembly of judges, jury, *&c.* in that place.

Courts are divided into superior and inferior, and into courts of record and base courts: again, courts are either such as are held in the king's name, as all the ordinary courts, or where the precepts are issued in the name of the judge, as the admiral's court.

The superior courts are those of the king's-bench, the common-pleas, the exchequer and the court of chancery. See the articles KING'S-BENCH, COMMON-PLEAS, EXCHEQUER, and CHANCERY.

A court of record, is that which has a power to hold plea, according to the course of the common law, of real, personal, and mixt actions; where the debt or damage is forty shillings, or above, as the court of king's-bench, *&c.*

A base court, or a court not of record, is where it cannot hold plea of debt, or damage, amounting to forty shillings, or where the proceedings are not according to the course of the common law, nor inrolled; such as the county-court, courts of hundreds, court-baron, *&c.*

The rolls of the superior courts of record are of such authority, as not to admit of any proof against them, they being only triable by themselves: but the proceedings of base courts may be denied, and tried by a jury. Some of the courts may fine, but not imprison a person, such as the leet; and some can neither fine not inflict punishment, and can only amerce, as the county-court, court-baron, *&c.* But the courts of record at Westminster-hall, have power to fine, imprison, and amerce; and in those courts the plaintiff need not shew, in his declaration, that the cause of action arises within their jurisdiction, being general; though, in inferior courts, it must be shewed at large, on account they have particular jurisdictions.

COURT *of admiralty.* See ADMIRALTY-*Court.*

COURT *of arches.* See ARCHES.

COURT *of attachment.* See the article ATTACHMENT.

COURT *of augmentation.* See the article AUGMENTATION.

COURT-BARON, a court that every lord of a manor has within his own precincts. This court must be held by prescription, and is of two kinds, *viz.* by common law, and by custom: the former is where the barons or freeholders, being suitors, are the judges; the other is, that where the lord, or his steward, is the judge.

COURT *of chivalry*, or the *marshal's* COURT, that whereof the judges are the lord high constable, and the earl marshal of England.

This court is the fountain of martial law, and the earl marshal is not only one of the judges, but is to see execution done. See the article CHIVALRY.

COURT *of conscience*, a court in the cities of London, Westminster, and some other places, that determines matters in all cases, where the debt or damage is under forty shillings.

COURT *of delegates*, a court where delegates are appointed by the king's commission, under the great seal, upon an appeal to him from the sentence of an archbishop, *&c.* in ecclesiastical causes; or of the court of admiralty, in any marine cause.

COURT *of hustings*, a court of record held at Guildhall, for the city of London, before the lord mayor and aldermen, sheriffs and recorder, where all pleas real, personal, and mixt, are determined; where all lands, tenements, *&c.* within the said city, or its bounds, are pleadable in two hustings; the one called the hustings of plea of lands, and the other the hustings of common pleas. The court of hustings is the highest court within the city, in which writs of exigent may be taken out, and out-lawries awarded, wherein judgment is given by the recorder. To the lord mayor and city of London belong several other courts, as the court of common-council, consisting of two houses, the one for the lord mayor and aldermen, and the other for the commoners; in which court are made all by-laws, which bind the citizens. The chamberlain's court relates to the rents and revenues of the city, to the affairs of servants, *&c.* See CHAMBERLAIN.

To the lord mayor belongs the court of coroner and escheator; another court for the conversation of the river of Thames; another of gaol delivery, held eight times a year at the Old Baily, for the trial of criminals, where the lord mayor himself is the chief judge.

There are also other courts called wardmotes, or meetings of the wards; and courts of halymote, or assemblies of the guilds and fraternities.

COURT-LEET, a court ordained for the punishment of offences under high treason against the crown.

COURT-MARTIAL, a court appointed for the

the puniſhing offences in officers, ſoldiers, and ſailors, the powers of which is regulated by the mutiny-bill.

COURT *of piepowder*. See the article PIEPOWDER-COURT.

COURT *of requeſts*, was a court of equity, of the ſame nature with the chancery, but inferior to it. It was chiefly inſtituted for the relief of ſuch petitioners as in conſcionable caſes addreſſed themſelves to his majeſty: the lord privy-ſeal was the chief judge of this court.

COURT *of the lord-ſteward of the king's houſe*. See the article STEWARD.

COURT *of the ſtar-chamber*. See the article STAR-CHAMBER.

COURT *of the univerſity*. See UNIVERSITY.

Biſhop's COURT.	See the articles	BISHOP.
Chriſtian COURT.		CHRISTIAN.
County COURT.		COUNTY.
Dutchy COURT.		DUTCHY.
Honour COURT.		HONOUR.
Lawleſs COURT.		LAWLESS.

Prerogative COURT, *&c.* See the article PREROGATIVE, *&c.*

COURT is alſo an appendage to a houſe or habitation, conſiſting of a piece of ground, incloſed with walls, but open at top. The court before the houſe is called the fore-court, and that behind, the back-court.

COURT is alſo uſed for the palace or place where a king or ſovereign prince reſides.

COURTAIN, or CURTIN. See CURTIN.

COURTENAI, a town of the iſle of France, about fifty-five miles ſouth-eaſt of Paris: eaſt long. 3°, and north lat. 48°.

COURTESY, or CURTESY *of England*, a certain tenure whereby a man marrying an heireſs ſeized of lands of fee ſimple, or fee tail general, or ſeized as heir of the tail ſpecial, and getteth a child by her that cometh alive into the world, tho' both it and his wife die forthwith; yet if ſhe were in poſſeſſion, he ſhall keep the land during his life, and is called *tenant per legem Angliæ*, or tenant by the courteſy of England; becauſe this privilege is not allowed in any country except Scotland, where it is called *curialitas Scotiæ*.

COURTISAN, a woman who proſtitutes herſelf for hire, eſpecially to people of ſuperior rank.

The Venetians, who had expelled the courtiſans their city, were obliged to recal them, to provide for the ſecurity of women of honour, and to prevent the nobles from meddling too much in affairs of ſtate.

COURTRAY, a town of the auſtrian Netherlands, ſituated on the river Lys, about twenty-three miles ſouth-weſt of Ghent, and fourteen eaſt of Ypres: eaſt long. 3° 10′, and north lat. 50° 48′.

COUSIN, a term of relation between the children of brothers and ſiſters, who in the firſt generation are called couſin-germans, in the ſecond generation, ſecond couſins, *&c.* If ſprung from the relations of the father's ſide, they are denominated paternal couſins; if on the mother's, maternal.

Before the time of Theodoſius, there was no law, eccleſiaſtical or civil, to prohibit the marriage of couſin-germans: under the reign of that emperor they were forbidden, but allowed again in the next reign, and under Juſtinian, who fixed the allowance in the body of his laws, but ſtill the canons continued the prohibition, and extended it to a greater degree.

COUSIN is alſo an honorary title beſtowed by kings on peers, princes of the blood, cardinals, and diſtinguiſhed perſons in the ſtate.

COUSINAGE, or COSENAGE. See the article COSENAGE.

COUSSINET, in architecture, the ſtone that crowns a piedroit, or pier, the under ſide of which is level, and the upper curved to receive the firſt ſpring of an arch or vault. It is alſo the face on the ſide of the volutes in the ionic capital, which the french artiſts call baluſtre and oreiller.

COUSU, in heraldry, ſignifies a piece of another colour or metal placed on the ordinary, as if it were ſewed on, as the word imports. This is generally of colour upon colour, or metal upon metal, contrary to the general rule of heraldry.

COUTANCES, a port-town and biſhop's ſee in Normandy, in France, about 100 miles weſt of Rouen: weſt long. 1° 32′. and north lat. 49° 10′.

COUTRAS, a town of Guienne, in France, about twenty miles north-eaſt of Bourdeaux: weſt long. 16°, and north lat. 45° 5′.

COVERT, in heraldry, denotes ſomething like a piece of hanging, or a pavillion falling over the top of a chief or other ordinary, ſo as not to hide but only to be a covering to it.

COW, in zoology, the female of the ox-kind. See the articles BOS and OX.

The marks of a good cow, according to ſome, are theſe: the forehead ſhould be broad,

broad, the eyes black, the horns large and clean, and the neck long and ftraight. The belly alfo fhould be large and deep, the thighs thick, the legs round, with fhort joints, and the feet broad and thick. As to colour, the red cow is faid to give the beft milk, and the black to bring forth the beft calves; but the cow that gives milk longeft, is the moft beneficial both for breeding and profit; and the moft proper time to calve in, is March or April. Before calving, fhe fhould be put into good pafture, or, if it happen in winter, fhould be well fed with hay; and the day and night after fhe has calved, her drink fhould be a little warmed. See the articles CALF, MILK, BUTTER, CHEESE, *&c.*

Sea-COW, in zoology, the fame with the thrichecus. See THRICHECUS.

COW-ITCH, in botany, the englifh name of the hairy phafeolus. See PHASEOLUS.

COWSLIP, *primula veris*, in botany. See the article PRIMULA.

COWSLIP *of Jerufalem*, the fame with the pulmonaria of authors. See the article PULMONARIA.

COWARD, in heraldry, a term given to a lion borne in an efchutcheon with his tail doubled, or turned in between his legs.

COWES, a town and harbour on the northern coaft of the ifle of Wight, fituated about eight miles fouth of Portfmouth: weft long. 1° 25′, and north lat. 53° 45′.

COWL, or COUL, a habit worn by the bernardins, and benedictines, of which there are two kinds, one white, very large, worn in ceremonies; the other black, worn on ordinary occafions in the ftreets, *&c.* The author of the apology of the emperor Henry IV. diftinguifhes two forms of cowls, the one a gown reaching to the feet, having fleeves and a capuchin; the other a kind of hood to work in, called a fcapulary, becaufe it only covers the head and fhoulders.

COWPER, or COUPER, in geography. See the article COUPER.

COWRING, in falconry, a term ufed when a young hawk quivers and fhakes her wings in token of obedience to the old ones.

COXÆ OSSA, in anatomy, called alfo offa innominata.* See INNOMINATA.

COXSWAIN, or COCK-SWAIN, in the fea-language. See COCK-SWAIN.

COXWOLD, a market-town in the north riding of Yorkfhire, about fourteen miles north of the city of York: weft long. 50′, and north lat. 54° 20′.

COZUMEL, an ifland near the weftern coaft of Jucatan, where Cortez landed and refrefhed his troops, before entering upon the couqueft of Mexico: weft long. 89°, and north lat. 13°.

CRAB, in zoology, the englifh name of the fhort-tailed fquillæ, more ufually called cancers, or cancri. See the articles CANCER and SQUILLA.

CRAB'S CLAWS, *chelæ cancrorum*, in the materia medica, are the tips of the claws of the common crab broken off at the verge of the black part, fo much of the extremity of the claws only being allowed to be ufed in medicine as is tinged with this colour. The blacknefs however is only fuperficial: they are of a greyifh white within, and when levigated, furnifh a tolerably white powder.

Crab's claws are of the number of the alkaline abforbents, but they are fuperior to the generality of them in fome degree, as they are found on a chemical analyfis to contain a volatile urinous falt. They are always kept in the fhops levigated to a fine powder, and are fometimes prefcribed fingly, tho' rarely, becaufe of their want of the beautiful white colour of fome of the others. They are the bafis, however, of the famous gafcoign powder, the lapis contrayerva, and many other of the compound fudorific powders.

CRAB'S EYES, *oculi cancrorum*, in pharmacy, are a ftrong concretion in the head of the cray-fifh. They are rounded on one fide, and depreffed and finuated on the other, confiderably heavy, moderately hard, and without fmell. We have them from Holland, Mufcovy, Poland, Denmark, Sweden, and many other places, fome of them probably taken out of the heads of the animals, but the far greateft part picked up on the fhores of the Baltic, and of other feas, and large rivers. They pay $9\frac{18}{100}$d. the pound on importation, and draw back $8\frac{16}{100}$d. on exportation.

Crab's eyes are much ufed both in the fhop-medicines and extemporaneous prefcriptions, being accounted not only abforbent and drying, but alfo difcuffive and diuretic. Fictitious and adulterated crab's eyes are fometimes fold by impoftors, who prepare them of tobacco-pipe clay; but the fraud is eafily detected, becaufe they want the lamellated contexture of the others, which is difcovered in calcining them, and are heavier than thofe of the genuine kind.

CRAB, an engine of wood, with three claws, placed

placed on the ground like a capftan, and ufed at launching, or heaving fhips into the dock. See plate LVIII. fig. 2.

CRABRO, the HORNET, in zoology, makes a fpecies of apis. See the articles APIS and HORNET.

CRACKER, in ornithology, the englifh name of a fpecies of duck, called alfo the fea pheafant, and the anas caudacuta. See the article ANAS.

It is about the fize of the common widgeon.

CRACOW, by fome accounted the capital city of Poland, is fituated in the province of little Poland, and palatinate of Cracow, in a fine plain near the banks of the Viftula.

It has an univerfity, and is the fee of a bifhop, and the feat of the fupreme courts of juftice: it ftands about 140 miles fouth-weft of Warfaw, in 19° 30′ of eaft long. and 50° north lat.

CRADLE, a well known machine in which infants are rocked to fleep.

It denotes alfo that part of the ftock of a crofsbow where the bullet is put.

CRADLE, in furgery, a cafe in which a broken leg is laid after being fet.

CRADLE, among fhipwrights, a timber frame made along the outfide of a fhip by the bilge, for the convenience of launching her with eafe and fafety. See plate LVIII. fig. 3.

CRAFT, in the fea-language, fignifies all manner of nets, lines, hooks, *&c.* ufed in fifhing. Hence all fuch little veffels as ketches, hoys, and fmacks, *&c.* ufed in the fifhing trade, are called fmall craft.

CRAIL, or CAREIL, a parliament-town of Scotland, fituated on the fea-coaft of the county of Fife, about feven miles fouth-eaft of St. Andrews: weft long. 2° 20′, and north lat. 56° 17′.

CRAION, or CRAYON. See CRAYON.

CRAMBE, *wild* SEA-CABBAGE, in botany, a genus of the tetradynamia filiquofa clafs of plants, the flower of which is tetrapetalous and cruciform: the fruit is a roundifh capfule, with one cell and two valves, containing a fingle roundifh feed. This plant is ufed as an aliment like other cabbage, when very young, but is efteemed more hot and dry. Dale tells us, the leaves heal wounds, and difcufs inflammations and other tumours.

CRAMP, in medicine, a convulfive contraction of a mufcular part of the body, being either natural, as in convulfive conftitutions, or accidental, from living in cold places, under ground, *&c.* It affects all parts indifferently, but the ham, calves, feet and toes, oftener than the arms and hands: it is feldom mortal, tho' its returns are often, quick, and continuance long, with great pain and diftenfion of fome veffels, as appears from the knots and ganglions it occafions. If it be natural, obferve the cure as in an epilepfy or convulfions; if accidental, it is removed by rubbing the part affected.

CRAMP FISH, the englifh name of the torpedo. See the article TORPEDO.

CRAMP-IRON, or CRAMPS, a piece of iron bent at each end, which ferves to faften together pieces of wood, ftones, or other things.

CRAMPONE'E, in heraldry, an epithet given to a crofs which has at each end a cramp or fquare piece coming from it; that from the arm in chief towards the finifter angle, that from the arm on that fide downwards, that from the arm in bafe towards the dexter fide, and that from the dexter arm upwards. See plate LXII. fig. 3.

CRAMPOONS, pieces of iron hooked at the ends for the pulling up of timber, ftones, *&c.*

CRANAGE, the liberty of ufing a crane at a wharf, and alfo the money paid for drawing up wares out of a fhip, *&c.* with a crane. See the article CRANE.

CRANE, in ornithology, the englifh name of the grus. See the article GRUS.

In plate LVI, fig. 2. are reprefented two tall and ftately crowned african cranes, which, when their heads are raifed, feem more than a yard in height.

CRANE, in mechanics, a machine ufed in building and commerce for raifing large ftones and other weights.

A crane is an inftrument of fuch general ufe, that we cannot avoid giving its defcription at large. It is of two kinds; in the firft, only the gibbet moves upon the axis; and in the fecond kind, called the rat-tailed crane, the whole crane with its load turns upon a ftrong axis.

The firft fort of crane is reprefented plate LVII. fig. 1. feen in profile. L B E D, is a fection of that part of the wharf on which it is fixed, L B being the horizontal line. A C is a ftrong horizontal piece of timber making the upper part of the crane, into which are framed the three upright pieces X, Y, Z, with its cill I E, and braces H I and *b* E. To the abovementioned horizontal piece is faftened, with ftrong iron pins, a fhort piece *p p*, having a bell-metal collar to receive the iron

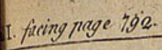


Fig. 1. CROWFEET.

Fig. 2. CROWNED AFRICAN CRANES.

J. Jefferys sculp.

iron pivot of the upright ſhaft R F, which is an axis in peritrochio, whoſe lower end is alſo of iron, turning in another bell-metal collar let into the firm piece of wood F. This upright wooden axle with its bars *e*, *f*, *b*, is called the capſtane of the crane, and the rope R *r r*, which goes firſt over the pully T, then between the pullies P and Q, and laſtly over the pully *r*, has at its ends a double iron hook called a ram's head, to which the goods W to be craned up are faſtened. The gibbet G V B is moveable upon its axis C B, ſo that when the weight is raiſed up ſufficiently high, it may be eaſily brought from over the ſhip or barge to any carriage on the wharf to the right or left of the piece Z. N° 2. ſhews the plane of the upper part of the crane, where we are to obſerve the poſition of the pullies P and Q, and of the place of the center of the gibbet, which muſt be at C, in a line touching the circumference of both pullies; becauſe if the center of the motion of the gibbet were in a line with the center of the pullies, the loaded gibbet would require a force to bring its end *g* over the wharf, and that force ceaſing to act, the weight and gibbet would turn back, and reſt over W.

This crane is very expeditious with many hands, it being always requiſite that ſome ſhould ſtand at the bars to keep the weight from running down again, which might be of dangerous conſequence.

The rat-tailed crane, which is repreſented *ibid.* n° 3. is not only uſeful on a wharf to crane up heavy goods, but alſo of great ſervice, in building, to raiſe great ſtones, and bring them round to any deſtined place. It conſiſts of the following parts. On the croſs ground cills L L L L L L is fixed by oblique braces the ſtrong upright piece K called the gudgeon of the crane, on whoſe ſpindle S, ſometimes made wholly of iron, the whole machine turns, being eaſily moved when it is charged with its load H. C A is the counter wheel with its axis D B, bearing only on the iron ends of the ſaid axis in two hanging perpendicular pieces at B and *b*; *f* F is the brace and ladder whoſe top F carries the pully above the weight, the other pullies being in the ends of the pieces M, N, E. The power is ſometimes applied by means of a rope on the outer circumference of the wheel A, but moſt commonly men, a horſe, or an aſs, turn the wheel round by walking in it.

Various improvements have been made on the rat-tailed crane: thus, in plate LVIII. fig. 1. n°. 1. is repreſented one with a double axis in peritrochio and two handles, whereby four men may raiſe very great weights; and being capable of turning about upon the upright ſhaft, may be fixed in any poſition to let them down into barges, boats, or the like. It differs from the preceding one, not only as the long neck is here of one piece, but the power differently applied. Here too the many accidents that happen by the careleſſneſs of workmen, are prevented by a peculiar contrivance: A B (*ibid.* n°. 2.) is the great wheel, moveable on the center pin *a*, by means of handles fixed at C to the leſſer or pinion wheel, upon the axis of which is the catchet-wheel D *d*: the teeth of this laſt wheel ſucceſſively receive the iron catch F *f* (moveable on a pin F on the ſtandard G, and occaſionally raiſed by the upright iron H *h*) to hinder the weight from going back when the handles are looſened. Upon the ſame axis, and behind the wheel D *d*, is a wooden wheel E *p*, over which ſtands the half ring of iron O P *o*, with a groove in it to fit the circumference of the ſaid wheel, ſo as to regulate the motion of the pinion C, and conſequently of the great wheel A B, and rope V A. The lever K L regulates all theſe motions; for when the ſtring Q *q* K is pulled, this lever, moveable on its center M, raiſes the piece H *h* by a horizontal pin at I, whereby the catch F *f* is freed from the teeth: hence a ſtrong pull by the guider at Q, ſtops the whole motion, and a more gentle one regulates the deſcent.

Chimney CRANE, a kitchen utenſil for hanging a pot, or the like, on; and being moveable, wafts it off and on the fire at pleaſure. See plate LVIII. fig. 4.

For the principles by which cranes act, ſee the articles AXIS *in* PERITROCHIO, PULLEY, *&c.*

CRANE is alſo a name given to the ſiphon. See the article SIPHON.

CRANE'S BILL, among ſurgeons, a kind of forceps, ſo called from its figure.

CRANE'S BILL, in botany, the engliſh name of the geranium. See GERANIUM.

CRANE-LINES, in a ſhip, are lines going from the upper end of the ſprit-ſail topmaſt, to the middle of the fore-ſtays. They ſerve to keep the ſprit-ſail-top-maſt upright and ſteady in its place, and to ſtrengthen it.

CRANGANOR, a dutch factory on the Malabar

Malabar-coaſt, in the hither India, about thirty miles north of Cochin: eaſt long. 75° 5′, and north lat. 10°.

CRANIOLARIA, in botany, a genus of the didynamia-angioſpermia claſs of plants, the flower of which conſiſts of one unequal petal: the pericarpium is coriaceous, ovated, acute on both ſides, and bivalvular: the fruit is a woody depreſſed nut, acuminated on both ſides, and marked with dentated furrows.

CRANIUM, in anatomy, denotes the ſkull. See the article SKULL.

CRANK, a contrivance in machines, in manner of an elbow, only of a ſquare form, projecting from a ſpindle, and ſerving by its rotation, to raiſe and fall the piſtons of engines.

CRANK, likewiſe denotes the iron ſupport for a lantern, or the like; alſo the iron made faſt to a ſtock of a bell for ringing it.

In the ſea-language, a ſhip is ſaid to be crank-ſided when ſhe can bear but ſmall ſail, for fear of over-ſetting; and when a ſhip cannot be brought on the ground without danger, ſhe is ſaid to be crank by the ground.

CRANNY, in glaſs-making, an iron inſtrument wherewith the necks of glaſſes are formed.

CRAPE, in commerce, a kind of ſtuff, made in the manner of gauze, with raw ſilk, gummed and twiſted on the mill.

CRAPULA, among phyſicians, the ſame with ſurfeit. See SURFEIT.

CRASIS, among phyſicians, is uſed to ſignify ſuch a due mixture of qualities in a human body, as conſtitutes a ſtate of health.

CRASIS, in grammar, the contraction of two letters into one long one, or a diphthong. Thus ἀληθέα is contracted into ἀληθῆ.

CRASPEDARIA, in zoology, a genus of animalcules, without any tail or limbs, but with an apparent mouth, and a ſeries of fimbriæ round it in the manner of a fringe: ſome ſpecies of craſpedaria are roundiſh, others oval, and others cylindric.

CRASSAMENTUM, in phyſic, the thick red, or fibrous part of the blood, otherwiſe called cruor, in contradiſtinction to the ſerum, or aqueous part. See the article BLOOD.

CRASSENA, a term uſed by Paracelſus, to expreſs certain ſaline, putrefactive and corroſive particles, which produce ulcers and tumours.

CRASSIROSTRÆ, a name given to the ſparrow, and the like birds, on account of their ſhort and thick beaks.

CRASSULA, in botany, a genus of the pentandria-pentagynia claſs of plants, the flower of which is of the infundibuliform ſhape, compoſed of five petals, with long, linear, ſtraight, connivent ungues: the fruit is compoſed of five oblong, acuminated, ſtraight, compreſſed capſules, opening longitudinally inwards; the ſeeds are numerous and ſmall.

CRATÆGUS, in botany, a genus of plants belonging to the icoſandria-digynia claſs, the flower of which conſiſts of five roundiſh, concave, ſeſſile petals, inſerted into the cup; the fruit is a fleſhy, roundiſh, umbilicated berry, containing two diſtinct nearly oblong, cartilaginous ſeeds. The fruit of this plant is aſtringent and binding, and is commended in fevers attended with a diarrhœa.

CRATCHES, in the manege, a ſwelling on the paſtern, under the fetlock, and ſometimes under the hoof; for which reaſon it is diſtinguiſhed into the ſinew cratches, which affect the ſinew, and thoſe upon the cronet, called quitter-bones.

CRATER, in aſtronomy, a conſtellation of the ſouthern hemiſphere, conſiſting of 7 ſtars, according to Ptolemy's catalogue, of 8 in Tycho's, and 11 in the Britannic catalogue.

CRATER, in falconry, a line on which hawks are faſtened when reclaimed.

CRATEVA, in botany, a genus of the polyandria-monogynia claſs of plants, the flower of which conſiſts of four ovated petals, bent upwards towards the ſame ſide, and furniſhed with ſmall ungues of the length of the cup; the fruit is a fleſhy, globoſe, very large berry, with one cell, containing ſeveral roundiſh, emarginated, nidulatory ſeeds.

CRATICULA, a kind of gridiron, or chemical inſtrument, made of ſquare pieces of iron, of the thickneſs of one's finger, placed in acute angles, about half a finger's ſpace diſtant from one another. It ſerves in making fires to keep up the coals.

CRATO, a town of Alentejo, in Portugal, ſituated about ſeven miles ſouth of Portalegre: weſt long. 8°, and north lat. 38° 50′.

CRAVEN, in geography, a diviſion of the weſt riding of Yorkſhire, ſituated on the river Are.

CRAVEN, or CRAVENT, in our old cuſtoms,

toms, a term of reproach, ufed in trials by battle. The law was, that the victory fhould be proclaimed, and the vanquifhed acknowledge his fault, in the prefence of the people; or pronounce the word *Cravent* in the name of recreantice, or cowardice, *&c.* and prefently judgment to be given; and the recreant *amittere legem terræ*, *i. e.* become infamous.

CRAW, or CROP *of birds*, ingluvies. See the article INGLUVIES.

CRAX, in ornithology, a genus of birds, of the order of the gallinæ, the characters of which are, that they have four toes on each foot, and their head is ornamented with a creft, or crown of feathers bending backwards. To this genus belong, 1. The black crax, or indian cock, with a black and white creft. 2. The black indian cock, with a black creft. 3. The fpotted crax, or indian cock, with a black creft.

CRAY, a diftemper in hawks, proceeding from long feeding upon cold ftale meat.

CRAY-FISH, the englifh name of the larger long-tailed fquillæ. See SQUILLA.

CRAYER, a fmall kind of fhip, mentioned in our old ftatutes.

CRAYON, a name for all coloured ftones, earths, or other minerals ufed in defigning or painting in paftel. Crayons may be made of any colour, and adapted for the faces of men, women, landfcapes, clouds, fun-beams, buildings, and fhadows, in the following manner. Take plaifter of Paris, or alabafter calcined, and of the colour of which you intend to make your crayons, a fufficient quantity: grind them firft afunder, and then together, and with a little water make them into a pafte: then roll them with your hand upon the grinding ftone into long pieces, and let them dry moderately in the air: when they are to be ufed, fcrape them to a point like a common pencil.

CREAM, the fat part of milk that fwims upon the furface. See MILK.

CREAM *of Tartar*, called alfo cryftals of tartar, in pharmacy, a preparation of tartar perform'd in the following manner. Take any quantity of crude tartar, boil it in water, till the parts which are capable of folution be entirely diffolved; filter the liquor whilft hot through a flannel bag, into an earthen pan, and evaporate till a pellicle appears, then fet it in a cold place, and fuffer it to ftand quietly two or three days: afterwards decant the fluid, and the cryftals will be found adhering to the pan; fcrape them off, and evaporate the fluid as before, and fet it again to chryftallife, and repeat the operation till all the chryftals are formed. Cream of Tartar is a gentle purge. It attenuates and refolves tough humours, and is good againft obftructions of the vifcera, and in cachectic complaints. It is alfo a good adjunct to chalybeate medicines.

CREAT, in the manege, an ufher to a riding-mafter; or, a gentlemen bred in the academy, with intent to make himfelf capable of teaching the art of riding the great horfe.

CREATION, the producing fomething out of nothing, which ftrictly and properly is the effect of the power of God alone, all other creations being only transformations, or change of fhape. Creation (fays the fchoolmen) from no pre-exifting fubject, may be underftood in different fenfes. 1. That is faid to be created out of no pre-exifting matter, in the production of which no matter is employed, as an angel. 2. Although matter may be employed in the production of a thing, it may be fo produced as that both its matter and form are caufed by the fame agent at the fame time. In this manner were the heavens and earth created in the opinion of thofe who deny that God made the chaos. 3. Although matter may be the fubject in producing a thing, yet that thing may not depend on matter either with refpect to its future or prefent exiftence. Such is the human foul, for although it is created in pre-exifting matter, it is not created out of pre-exifting matter, but of nothing, and therefore is no ways dependent on matter for exiftence. See the article WORLD.

Epocha of the CREATION. See EPOCHA.

CREATION, in the romifh church, the reproduction of the humanity of Jefus Chrift in the eucharift, by the words of the confecration.

CREDENTIALS, letters of recommendation, and power, efpecially fuch as are given to embaffadors, or public minifters, by the prince or ftate that fends them to foreign courts.

CREDIBILITY, a fpecies or kind of evidence, lefs indeed than abfolute certainty or demonftration, but greater than mere poffibility: it is nearly allied to probability, and feems to be a mean between poffibility and demonftration. See the article EVIDENCE.

CREDIT, in commerce, a mutual truſt or loan of merchandiſe, or money, on the reputation of the probity and ſufficiency of a dealer.

Credit is either private or public.

Every conſiderable trader ought to have ſome eſtate, ſtock, or portion, of his own, ſufficient to carry on the traffic he is engaged in: they ſhould alſo keep their dealings within the extent of their capital, ſo that no diſappointment in their returns, may incapacitate them to ſupport their credit: yet traders of worth and judgment may ſometimes lie under the neceſſity of borrowing money for the carrying on their buſineſs to the beſt advantage; but then the borrower ought to be ſo juſt to his own reputation, and to his creditors, as to be well aſſured, that he has ſufficient effects within his power, to pay off his obligations in due time: but if the trader ſhould borrow money to the extent of his credit, and launch out into trade, ſo as to employ it with the ſame freedom as if it was his own proper ſtock, ſuch a way of management is very precarious, and may be attended with dangerous conſequences. Merchants ought never to purchaſe their goods for exportation upon long credit, with intent to diſcharge the debt by the return of the ſame goods, for this has an injurious influence upon trade ſeveral ways; and if any merchant has occaſion to make uſe of his credit it ſhould always be for the borrowing of money, but never for the buying of goods: nor is the large credit given to wholeſale traders a prudential or juſtifiable practice in trade.

The public credit of a nation is ſaid to run high, when the commodities of that nation find a ready vent, and are ſold at a good price, and when dealers may be ſafely truſted with them; alſo when lands and houſes find ready purchaſers; and money is to be borrowed at low intereſt: when people think it ſafe and advantageous to venture large ſtocks in trade, and when notes, mortgages, *&c.* will paſs for money.

CREDIT, was antiently a right which lords had over their vaſſals, conſiſting herein, that, during a certain time, they might oblige them to lend them money.

CREDITON, a market-town in Devonſhire, conſiderable for a good woollen manufactory: it is ſituated about 9 miles north-weſt of Exeter, in 3° 50′ weſt long. and 50° 50′ north lat.

CREDITOR, a perſon to whom any ſum of money is due, either by obligation, promiſe, or otherwiſe. See DEBT.

Creditors ſhall recover their debts of executors or adminiſtrators, that waſte or convert to their uſe the eſtate of the deceaſed. The laws of the twelve tables, which were the foundation of the roman juriſprudence, permitted the creditor to tear or cut his debtor to pieces, in caſe he proved inſolvent.

CREDITOR, in book-keeping. See the article BOOK-KEEPING.

CREED, a brief ſummary of the articles of a chriſtian's belief.

The moſt antient form of creeds is that which goes under the name of the apoſtolic creed; beſides this, there are ſeveral other antient forms, and ſcattered remains, of creeds to be met with in the primitive records of the church. The firſt is a form of apoſtolical doctrine, collected by Origen; the ſecond is the fragment of a creed, preſerved by Tertullian; the third remains of a creed, is in the works of Cyprian; the fourth, a creed compoſed by Gregory Thaumaturgus, for the uſe of his own church; the fifth, the creed of Lucian the martyr; the ſixth, the creed of the apoſtolical conſtitutions. Beſides theſe ſcattered remains of the antient creeds, there are extant ſome perfect forms, as thoſe of Jeruſalem, Cæſarea, Antioch, *&c.*

The moſt univerſal creeds are the apoſtolical, the athanaſian, and the nicene creeds.

CREEK, the part of a haven where any thing is landed from the ſea.

It is defined by ſome to be a ſhore, or bank, on which the water beats, running in a ſmall channel from any part of the ſea.

CREEPER, in ornithology, a name given to ſeveral ſpecies of iſpida, called in engliſh the ox-eye. See the article ISPIDA.

The black, white, and red indian creeper is a curious little bird, figured of its natural bigneſs in plate XLV. fig. 2. Its upper ſide is of a deep black, ſpotted with ſcarlet; the whole under part of the body is white; only the legs, feet, and claws are black.

CREEPER, at ſea, a ſort of grapnel, but without flooks, uſed for recovering things that may be loſt over-board. See plate LVIII. fig. 5.

CRENGLES, among ſeamen, ſmall ropes ſpliced into the bolt-ropes of the ſails of the main-maſt, and fore-maſt, into which

which the bowling bridles are made faſt.

CREMA, a city and biſhop's ſee of Italy, capital of a diſtrict of the Milaneſe, called from it Cremaſco: it ſtands almoſt in the middle between Milan and Mantua, in 10° 15′ eaſt long. and 45° 20′ north lat.

CREMASTER, in anatomy, the name of a muſcle of the teſticle, of which there is one on each ſide.

It ariſes fleſhy from the loweſt and fore-part of the os ilium, and upper part of the ligamentum pubis: its fibres running parallel with thoſe of the oblique aſcendens, and almoſt encompaſſing the proceſs of the peritonæum, deſcends with it, and is inſerted into the tunica vaginalis, upon which it ſpreads in ſeveral diſtinct portions.

CREMONA, a city of Italy, and capital of a diſtrict of the Milaneſe, called from it the Cremoneſe, is ſituated forty-five miles ſouth-eaſt of Milan, in 10° 30′ eaſt longitude, and 45° north latitude.

CRENATED, among botaniſts, is ſaid of leaves, the edges of which are furniſhed with indentings, contiguous to each other, and neither inclining toward the point nor baſe. Of theſe ſome are acute, others obtuſe, &c. as repreſented in plate LIII. fig. 5.

CRENCLES, in a ſhip, ſmall ropes, ſpliced into the bolt-ropes of the ſails of the main-maſt and fore-maſt. They are faſtened to the bow line-bridles; and are alſo to hold by, when a bonnet is ſhaken off.

CRENELLE′, or Imbattled, in heraldry, is uſed when any honourable ordinary is drawn, like the battlements on a wall to defend men from the enemies ſhot. See plate LXII. fig. 4.

CRENOPHYLAX, in antiquity, a magiſtrate at Athens, who had the inſpection of fountains.

CREPANCE, in the manege, a chop, or cratch, in a horſe's leg, given by the ſpunges of the ſhoes of one of the hinder feet, croſſing and ſtriking againſt the other hinder foot. This cratch degenerates into an ulcer.

CREPIS, in botany, a genus of the ſyngeneſia-polygamia claſs of plants, the compound flower of which is uniform and imbricated; and the proper ones monopetalous, linear, truncated, and divided into five indentures; the ſtamina are five very ſhort capillary filaments; and the ſeed is oblong, ſolitary, and crowned with long down, being incloſed in a roundiſh cup, that ſerves inſtead of a pericarpium.

CREPUNDIA, in antiquity, a term uſed to expreſs ſuch things as were expoſed along with children, as rings, jewels, &c. called by the greeks γνωρίσματα, ſerving as tokens whereby they afterwards might be known; or as helps to defray the charges of breeding and educating them.

CREPUSCULUM, the twilight, in aſtronomy and optics. See Twilight.

CRESCENT, *creſcens*, the new moon, which, as it begins to recede from the ſun, ſhews a little rim of light, terminating in points, called horns, that are ſtill increaſing, till it is in oppoſition to the ſun, at which time it is full moon, or quite round.

Crescent, in heraldry, a bearing in form of a new moon. See plate LVII. fig. 4. It is uſed either as an honourable bearing, or as the difference to diſtinguiſh between elder and younger families; this being generally aſſigned to the ſecond ſon, and thoſe that deſcend from him. The figure of the creſcent is the turkiſh ſymbol, with its points looking towards the top of the chief, which is its moſt ordinary repreſentation, called creſcent montant. Creſcents are ſaid to be adoſſed, when their backs are turned towards each other; a creſcent is ſaid to be inverted, when its points look towards the bottom; turned creſcents have their points looking to the dexter-ſide of the ſhield; cornuted creſcents to the ſiniſter ſide, and affronted creſcents, contrary to the adoſſed, have their points turned to each other.

Crescent is alſo an order of knights, inſtituted by Renatus of Anjou, king of Sicily, about the year 1448, ſo called, from the badge of this order, which was an enamelled creſcent of gold.

Crescent, a term among farriers. Thus a horſe is ſaid to have creſcents when that part of the coffin bone which is moſt advanced falls down and preſſes the ſole outwards, and the middle of her hoof above ſhrinks, and becomes flat, by reaſon of the hollowneſs beneath it.

CRESCENTIA, in botany, a genus of the didynamia-angioſpermia claſs of plants, whoſe corolla conſiſts of a ſingle petal, gibbous and unequal; the tube is alſo gibbous; the limb erect, and divided into five ſegments. The fruit is an oval, hard berry, containing a ſingle cell: the ſeeds are numerous, ſubcordated, nidulated, and containing two cells.

CRESS,

CRESS, or CRESSES, in botany, the english name of the lepidium. See the article LEPIDIUM.

Indian CRESS, the english name of the cardamindum, or tropæolum of botanists. See the article TROPÆOLUM.

Sciatica-CRESS, the same with cardamine. See the article CARDAMINE.

Water, or *Winter*-CRESS, the same with the sisymbrium. See SISYMBRIUM.

CRESSY, a town of Picardy in France, about forty-four miles south of Calais, and twenty-seven north-west of Abbeville, remarkable on account of the victory obtained there over the French, by Edward III. of England, in the year 1346: east long. 2°, and north lat. 50° 20′.

CREST, in armoury, the top part of the armour for the head, mounting over the helmet, in manner of a comb, or tuft of a cock, deriving its name from *crista*, a cock's comb.

The crest was for the most part made of feathers, or the hair of horses tails or mains. The soldiers took great pride in adorning them. In most of the old monuments we find the crest represented, not much unlike those on the tops of our modern head-pieces: but whatever the common soldiers had, those of the officers were usually wrought in gold or silver, and the plumes of a larger size, quite across the helmet; and some wore two, or three, or four together of these plumes.

CREST, in heraldry, the uppermost part of an armoury, or that part of the cask or helmet next to the mantle. Guillim says, the crest, or cognizance, claims the highest place, being seated on the most eminent part of the helmet; yet so as to admit of an interposition of some escrol, wreathe, chapeau, crown, &c.

The crest is esteemed a greater mark of nobility, than the armoury; being borne at tournaments, to which none were admitted till such time as they had given proof of their nobility: sometimes it serves to distinguish the several branches of a family; and it has served, on occasion, as a distinguishing badge of factions: sometimes the crest is taken for the device; but more usually is formed of some piece of the arms. Families that exchange arms do not change their crest.

CREST, among carvers, an imagery, or carved work, to adorn the head, or top of any thing, like our modern corniche.

CREST-FALLEN, a fault of an horse, when the upper part of his neck, called the crest, hangs to one side: this they cure by placing it upright, clipping away the spare skin, and applying plasters to keep it in a proper position.

CRESTED, something furnished with a crest. See the article CREST.

CRETA, CHALK, in natural history. See the article CHALK.

CREUX, a french term used among artists, and literally signifies a hollow cavity, or pit, out of which something has been scooped or dug: whence it is used to signify that kind of sculpture, where the lines and figures are cut and formed within the face or plan of the plate, or matter engraved; and thus it stands in opposition to relievo, where the lines and figures are embossed, and rise prominent above the face of the matter engraved on.

CREW, the company of sailors belonging to a ship, boat, or other vessel. The sailors that are to work and manage a ship, are regulated by the number of lasts it may carry, each last making two tun. The crew of a Dutch ship, from forty to fifty lasts, is seven sailors and a swabber; from fifty to sixty lasts, the crew consists of eight men and a swabber; and thus encreases at the rate of one man every ten lasts. English and french crews are usually stronger than dutch, but always in about the same proportion. There are in a ship several particular crews, or gangs, as the gun-room crew, the carpenter's crew, &c.

CREX, in ornithology, a species of ortygometra, known in different parts of the kingdom, by the names darker-hen, and corn-crake. See ORTYGOMETRA.

From its note *crex, crex*, the name crex, as well as corn-crake, are evidently derived: it is frequent in corn-fields.

CRIANCE, or CREANCE, among sportsmen, a fine packthread fastened to a hawk's breast, when she is first lured.

CRIB, a frame of wood wherein moist things, particularly salt, as it is taken out of the boiling-pan, are put to drain.

CRIBBAGE, a game at cards, wherein no cards are to be thrown out, and the set to make sixty-one; and as it is an advantage to deal, by reason of the crib, it is proper to lift for it, and he that has the least card deals.

There are only two players at this game, wherein the cards are dealt out one by one, the first to the dealer's antagonist, and the next to himself; and so on, till each

each have five; the rest being set down in view on the table.

This done, the dealer lays down the two best cards he can for his crib; and his antagonist lays down the other two, the very worst in his hand, by reason the crib is the property of the dealer. They next turn up a card from the parcel left after dealing, and then count their game thus: any fifteen upon the cards is two; as king and five, ten and five, nine and six, eight and seven, &c. A pair is also two; a pair royal, or three aces, kings, &c. six; a double pair royal, or four aces, &c. twelve. Sequences of three cards, as, four, five, and six, is three; sequences of four, four; five, five, &c. and the same holds of a flush. Knave noddy, or of the suit turned up, is one in hand, and two to the dealer. If, after the cards for the crib are laid out, you have in your hand a nine and two sixes, that makes six; because there is two fifteens, and a pair: and if a six chance to be turned up, then you have twelve in your hand, *viz.* the pair royal, and three fifteens. These are to be marked with pegs, counters, or otherwise. If you happen to have sequences, as of four, five, and six in your hand, and six be the turned up card, they are counted thus: first, the sequences in your hand make two; and the sequences of the four and five in your hand, added to the six turned up, make other two: there is likewise two fifteens, counting first with the six in your hand, and then with that turned up.

This done, the antagonist to the dealer plays first, suppose a six; and if the dealer can make it fifteen, by playing nine, he gains two; otherwise they play on, and he that reaches thirty-one exactly, or comes nearest under it, gains one. Here too, in playing of the cards, you may make pairs, pairs-royal, flushes, &c. which are all counted as above.

As to the crib, it is the dealer's, who may make as many as he can out of them, together with the card turned up; counting as above: if he can make none, he is said to be bilked.

Thus they play and deal by turns, till the game of sixty-one is up; and if either of the gamesters reach this before the other is forty-five, this last is said to be lurkt, and the other gains a double game.

CRIBRATION, in pharmacy, the passing any substance through a sieve, or searce, in order to separate the finer particles from the grosser, whether the body be dry and reduced to powder, or moist as the pulps of seeds, fruits, or roots.

CRIBROSUM os, in anatomy, called also os ethmoides, and os cribriforme, a bone situated internally in the fore part of the basis of the skull. The uses of it are to be a principal part of the organ of smelling, and to give a very great extent to the pituitary membrane in a small compass.

CRIBRUM BENEDICTUM, among antient physicians, an imaginary membrane of the kidneys, by which they pretended the serum was percolated or strained, and the good blood left behind.

CRICETUS, in zoology, an animal of the mouse or rat-kind, with an elongated tail, and variegated with reddish brown, black, and grey. See the article MUS.

CRICK, among farriers, is when a horse cannot turn his neck any manner of way, but holds it fore right, insomuch that he cannot take his meat from the ground without great pain. The cure is to thrust a sharp hot iron through the flesh of the neck in several places, at three inches distance, and rowel all of them, with horse-hair, flax, or hemp, anointing the rowels with hog's greese.

CRICKET, the name of an exercise or game with bats and balls. The laws of this game, as settled by the cricket-club in 1744, and played at the artillery-ground, London, are as follow.

The pitching the first wicket is to be determined by the cast of a piece of money. When the first wicket is pitched, and the popping-crease cut, which must be exactly three feet ten inches from the wicket, the other wicket is to be pitched directly opposite at twenty-two yards distance, and the other popping-crease cut three feet ten inches before it. The bowling-creases must be cut in a direct line from each stump. The stumps must be twenty-two inches long, and the bail six inches. The ball must weigh between five and six ounces. When the wickets are both pitched, and all the creases cut, the party that wins the toss up may order which side shall go in first, at his option.

The laws for the bowlers. Four balls and over. The bowler must deliver the ball with one foot behind the crease, even with the wicket, and when he has bowled one ball, or more, shall bowl to the number four before he changes wickets; and he shall change but once in the same innings,

innings. He may order the player that is in at his wicket to ſtand on which ſide of it he pleaſes at a reaſonable diſtance. If he delivers the ball with his hinder foot over the bowling-creaſe, the umpire ſhall call no ball, though ſhe be ſtruck, or the player is bowled out, which he ſhall do without being aſked, and no perſon ſhall have any right to aſk him.

Laws for the ſtrikers, or thoſe that are in. If the wicket is bowled down, it is out. If he ſtrikes or treads down, or he falls himſelf upon the wicket in ſtriking, but not in over-running, it is out. A ſtroke or nip over or under his bat, or upon his hands, but not arms, if the ball be held before ſhe touches ground, though ſhe be hugged to the body, it is out. If in ſtriking, both his feet are over the popping-creaſe, and his wicket put down, except his bat is down within, it is out. If he runs out of his ground to hinder a catch, it is out. If a ball is nipped up, and he ſtrikes her again wilfully before ſhe come to the wicket, it is out. If the players have croſſed each other, he that runs for the wicket that is put down, is out; if they are not croſſed, he that returns is out. If in running a notch, the wicket is ſtruck down by a throw before his foot, hand, or bat is over the popping-creaſe, or a ſtump hit by the ball, though the bail was down, it is out. But if the bail is down before, he that catches the ball muſt ſtrike a ſtump out of the ground-ball in hand, then it is out. If the ſtriker touches or takes up the ball before ſhe is lain quite ſtill, unleſs aſked by the bowler or wicket-keeper, it is out.

Bat, foot, or hand over the creaſe. When the ball has been in hand by one of the keepers or ſtoppers, and the player has been at home, he may go where he pleaſes till the next ball is bowled. If either of the ſtrikers is croſſed in his running ground deſignedly, which deſign muſt be determined by the umpires. *N. B.* The umpires may order that notch to be ſcored. When the ball is hit up, either of the ſtrikers may hinder the catch in his running ground, or if ſhe is hit directly acroſs the wickets, the other player may place his body any where within the ſwing of the bat, ſo as to hinder the bowler from catching her: but, he muſt neither ſtrike at her, nor touch her with his hands. If a ſtriker nips a ball up juſt before him, he may fall before his wicket, or pop down his bat before ſhe comes to it, to ſave it. The bail hanging on one ſtump, though the bail hit the wicket, it is not out.

Laws for the wicket-keepers. The wicket-keepers ſhall ſtand at a reaſonable diſtance behind the wicket, and ſhall not move till the ball is out of the bowler's hand, and ſhall not by any noiſe incommode the ſtriker; and if his hands, knees, foot, or head be over, or before the wicket, though the ball hit it, it ſhall not be out.

Laws for the umpires. To allow two minutes for each man to come in when one is out, and ten minutes between each hand. To mark the ball that it may not be changed. They are ſole judges of all outs and ins, of all fair or unfair play, of all frivolous delays, of all hurts, whether real or pretended, and are diſcretionally to allow what time they think proper before the game goes on again. In caſe of a real hurt to a ſtriker, they are to allow another to remain, and the perſon hurt to come in again; but are not to allow a freſh man to play on either ſide on any account. They are ſole judges of all hindrances, croſſing the players in running, and ſtanding unfair to ſtrike; and, in caſe of hindrance, may order a notch to be ſcored. They are not to order any man out, unleſs appealed to by one of the players. Thoſe laws are to the umpires jointly.

Each umpire is the ſole judge of all nips and catches, ins and outs, good or bad runs, at his own wicket, and his determination ſhall be abſolute, and he ſhall not be changed for another umpire without the conſent of both ſides. When the four balls are bowled, he is to call over. Theſe laws are ſeparately.

When both umpires call play three times, it is at the peril of giving the game from them that refuſe to play.

CRICKET, in zoology, the engliſh name of the gryllus. See GRYLLUS.

Mole-CRICKET, the ſame with the gryllotalpa. See the article GRYLLO-TALPA.

CRICKLADE, a borough-town of Wiltſhire, ſituated on the river Iſis, about twenty-ſix miles ſouth-weſt of Oxford: weſt longitude 1° 55′, and north latitude 51° 35′.

It ſends two members to parliament.

CRICOARYTANOIDÆUS, in anatomy, a name given to two muſcles of the larynx, called the cricoarytænoides poſticum, and the lateral cricoarytænoides. They ſerve to dilate the glottis. See the article LARYNX.

CRICOIDES, in anatomy, a cartilage of the larynx, called alfo the annular cartilage. It occupies the loweft part by way of bafe to the reft of the cartilages; and to the lower part of it the afpera arteria adheres.

CRICOTHYROIDÆUS, in anatomy, one of the five proper mufcles of the larynx, which arife and terminate in it. It ferves occafionally either to dilate, or conftringe the glottis.

CRIM, or CRIM-TARTARY, a peninfula in the black fea, between 33° and 37° eaft long. and between 44° and 46° north lat. It is joined to Little Tartary by a narrow ifthmus.

The prince of this country, called Cham, or Ham, is fubject to the Turks; being obliged to furnifh 30,000 men, whenever the grand fignior takes the field.

CRIME, *crimen*, the tranfgreffion of a law, either natural or divine, civil or ecclefiaftic.

Civilians diftinguifh between crimen and delictum. By the firft, they mean capital offences, injurious to the whole community, as murder, perjury, &c. the profecution of which was permitted to all perfons, though no ways immediately interefted. By the latter, they underftand private offences committed againft individuals, as theft, &c. By the laws, no body was allowed to profecute in thefe, except thofe interefted.

With us, crimes are diftinguifhed into capital, as treafon, murder, robbery, &c. and common, as perjuries, &c.

Again, fome crimes are cognizable by the king's judges, as the above-mentioned; and others are only cognizable in the fpiritual courts, as fimple fornication.

Quafi CRIME. See QUASI CRIME.

CRIMNOIDES, or CRIMOIDES, among phyficians, a term fometimes ufed for the fediment of urine, refembling bran.

CRIMSON, one of the feven red colours of the dyers.

To dye a lively crimfon: Firft wet the goods well, and for every pound of ftuff to make the fuds, ufe two ounces and a half of tempered aqua fortis, and three ounces and half of tartar, an ounce and half of cochineal, and eight ounces of alum. Boil the goods with all thefe for half an hour; let them cool, and rinfe them out. To finifh the dye, boil four ounces of cochineal, three ounces of ftarch, three ounces of white-wine tartar, and half an ounce of white arfenic together for a quarter of an hour, then put in the goods and let them boil for above half an hour, or till they have taken the dye well and equally.

CRINONES, among phyficians, fmall worms that breed in the fkin, called alfo dracunculi. See DRACUNCULI.

They moftly infeft the mufcular parts, as the back, fhoulders, legs, and thighs. They occafion a troublefome itching, and are to be deftroyed with a mercurial lotion.

CRINUM, in botany, a genus of the hexandria-monogynia clafs of plants, the flower of which is infundibuliform and monopetalous: the fruit is a fubovated capfule, with three cells, containing feveral feeds.

CRISIS, in medicine, is ufed in different fenfes, both by the antient and modern phyficians. With fome it means frequently no more than the excretion of any noxious fubftance from the body. Others take the word for a fecretion of the noxious humours made in a fever. Others ufe it for the critical motion itfelf; and Galen defines a crifis in fevers, a fudden and inftantaneous change, either for the better or the worfe, productive of recovery or death. The doctrine of crifes is very obfcure; however the following are reckoned the principal fymptoms of an approaching crifis, a fudden ftupor, drowfinefs, waking, delirium, anxiety, dyfpœna, grief, rednefs, titillation, naufea, heat, thirft, &c. after digeftion, and about the critical time; and the fymptoms and effects of a prefent crifis are after the preceding ones, a vomiting, loofenefs, thick fediment in the urine, bleeding at the nofe, hæmorrhoids, fweat, abfceffes, puftules, tumours, buboes, &c.

CRISP LEAF, among botanifts, is one folded over and over, at the edges, which are always ferrated, dentated, or lacerated. It is otherwife called curled. See plate LXIV. fig. 3.

CRISTÆ, in furgery, a term for certain excrefcences about the anus and pudenda. See the article CONDYLOMA.

CRISTA GALLI, in anatomy, a procefs of the os ethmoides, making the upper part of the feptum narium. It takes its name from the fuppofed refemblance to the comb of a cock. See CRIBROSUM OS.

CRITERIUM, a ftandard by which propofitions and opinions are compared, in order to difcover their truth or falfhood.

CRITHE, in furgery, commonly called the ftye, is a tubercle that grows in different

ferent parts of the eyelids. When it is ſmall it comes only on the edge of the eyelids, or very near it, between the cilia; but when it is large it ſpreads towards the middle of the lid. The cure of this diſeaſe muſt be varied according as the crithe is attended with an inflammation, or is hardened and concreted.

For a more particular account of the nature, and the treatment proper in the cure of this diſorder, ſee the article STYE.

CRITHMUM, SAMPHIRE, in botany, a genus of the pentandria digynia claſs of plants, the univerſal flower of which is uniform; the proper one conſiſts of five ovated, inflected, and nearly equal petals: there is no pericarpium: the fruit is oval, compreſſed, and ſeparable into two parts: there are two elliptical compreſſo-plane ſeeds, ſtriated on one ſide. Samphire is more uſed as a pickle, than for any medicinal purpoſes. However, it is ſuppoſed to ſtrengthen the ſtomach, provoke urine, and open obſtructions of the bowels.

CRITHOMANCY, a kind of divination performed by conſidering the dough or matter of cakes, offered in ſacrifice, and the meal ſtrewed over the victim to be killed.

CRITICAL DAYS and SYMPTOMS, among phyſicians, are certain days and ſymptoms in the courſe of acute diſeaſes, which indicate the patient's ſtate, and determine him either to recover or grow worſe. A careful obſervation of theſe days is of the greateſt uſe towards the cure of diſeaſes, leſt miſchief be done by unſeaſonable aſſiſtance from art, as when a phyſician endeavours to expel that which is not prepared to be evacuated, or elſe hinders the evacuation of ſuch humours, as, being ſubdued and concocted, endeavour to eſcape by ſome convenient outlet. According as the violence of the diſeaſe is more ſwift or ſlow, the critical days will be more or leſs diſtant from each other: thus in fevers which do not exceed the ſpace of three weeks, the quaternary or ſeptennary days are critical; and beſides theſe, there are in the two firſt weeks many more incidentally critical days, as the third, fifth, ſixth, &c. But if an acute diſeaſe extends itſelf beyond three weeks, then the quaternary days no more take place as critical, but only the ſeptennary days are ſo, though the efficacy of theſe laſt is likewiſe aboliſhed after the fortieth day. See the article CRISIS.

CRITICISM, the art of judging with propriety concerning any diſcourſe or writing. Though the uſe of the word is ordinarily reſtrained to literary criticiſm, we may diſtinguiſh divers other branches of this art, as, 1. Philoſophical criticiſm, the art of judging of the hypotheſes and opinions of philoſophers. 2. Theological criticiſm, the art of judging of explications of doctrines of faith. 3. Political criticiſm, the art of judging of the means of governing, acquiring, and preſerving ſtates. 4. Grammatical criticiſm, the art of interpreting the words of an author, &c. Lord Bacon divides criticiſm, firſt, as it regards the exact correcting and publiſhing of approved authors, by which the honour of ſuch authors is preſerved, and the neceſſary aſſiſtance afforded to the reader: yet the miſapplied labours and induſtry of ſome have in this reſpect proved highly prejudicial to learning; for many critics have a way, when they fall upon any thing they do not underſtand, of immediately ſuppoſing a fault in the copy, and hence it happens that the moſt corrected copies are often the leaſt corrected. 2. As it reſpects the explanation and illuſtration of authors by notes, comments, collections, &c. But here an ill cuſtom has prevailed, of ſkipping over the obſcure paſſages, and expatiating upon ſuch as are ſufficiently clear: as if the deſign was not ſo much to illuſtrate the author, as to take all occaſions of ſhewing their own learning and reading. It were therefore to be wiſhed, ſays the noble author, that every original writer who treats an obſcure ſubject, would add his own explanation to his own work, and thus prevent any wrong interpretation by the notes of others. 3. There belongs to criticiſm a certain conciſe judgment or cenſure of the authors publiſhed, and a compariſon of them with other writers, who have treated the ſame ſubject. In ſhort, the art of criticiſm, though reckoned by ſome as a diſtinct part of philoſophy, is in truth nothing elſe than a more correct and accurate knowledge in the other parts of it; and a readineſs to apply that knowledge upon all occaſions, in order to judge well of what relates to theſe ſubjects, to explain what is obſcure in authors, to ſupply what is defective, and amend what is erroneous in manuſcripts or antient copies, to correct the miſtakes of authors and editors in the ſenſe or the words, to reconcile the controverſies of the learned, and by theſe means to ſpread a juſter knowledge of the beautiful paſſages and ſolid reaſoning of authors,

among

4

among the inquiſitive part of mankind.

CRIZZELING is ſaid of glaſs, which, by reaſon of too great a proportion of nitre, tartar, or borax, is ſcabrous or rough on the ſurface.

CROATIA, a frontier province of Germany, bounded by Sclavonia on the north and eaſt, by Boſnia on the ſouth, and by Carniola on the weſt.

It is ſubject to the houſe of Auſtria.

CROCCEUS, or HOAMEO, a large river of China, which, after a courſe of two thouſand miles, falls into the bay of Nankin: it is ſometimes called the Yellow river, on account of the ſlime of this colour, with which its waters are tinged.

CROCHES, among hunters, the little buds growing about the tops of a deer or hart's horns.

CROCI, among botaniſts, the ſame with antheræ. See the article ANTHERÆ.

CROCIA, the ſame with croſier. See the article CROSIER.

CROCINUM, among phyſicians, denotes the oil of ſaffron, ſaid to be of a heating quality, and to procure ſleep; whence it is frequently uſed in phrenſies: it is alſo a ſuppurative, and deterges ulcers.

CROCODES, an appellation given to paſtils or troches, whereof crocus, or ſaffron, is the principal ingredient.

CROCODILE, *crocodilus*, in zoology, a ſpecies of lizard, with a two-edged tail and triangular feet, the fore ones having five, and the hinder only four toes. See the article LIZARD.

This animal is the largeſt of the lizard-kind, growing to twenty-five feet in length, and about the thickneſs of a man's body. It is a native of the torrid zone, frequenting ſalt-water rivers, where it lies concealed among the reeds or ruſhes, till it finds an opportunity to ſeize men or other animals, which it drags into the water, always taking this method of drowning them firſt, that it may afterwards ſwallow them without reſiſtance: its general food, however, is fiſh. The Africans and Indians eat its fleſh, which is white, and of a kind of perfumed flavour.

CROCUS, SAFFRON, in botany, a genus of the triandria-monogynia claſs of plants, the flower of which conſiſts of one petal, divided into ſix oval, oblong, and equal ſegments; and its fruit is a trilocular capſule, conſiſting of three valves, and containing a number of roundiſh ſeeds. See plate LIV. fig. 8.

For the culture of ſaffron, its different preparations, medicidal virtues and other uſes, ſee the article SAFFRON.

CROCUS, in chemiſtry, denotes any metal calcined to a red or deep yellow colour: thus we meet with crocus martis aperiens & aſtringens, or the aperient and aſtringent crocuſes of iron; alſo with the crocus veneris, or copper calcined to ſuch a reddiſh powder.

The aperient crocus of iron is thus made: expoſe a quantity of iron filings to the open air, in the ſpring, till they are perfectly converted into a reddiſh duſt; or, mix equal quantities of iron filings and ſulphur into a paſte, and calcine this over the fire till the ſulphur is burnt away; the remaining red powder is called crocus martis aperiens cum ſulphure. Both theſe are recommended in obſtructions, and may be given in ten grains for a doſe; but the firſt is eſteemed the beſt.

The aſtringent crocus of iron is made by expoſing iron filings to air, and ſprinkling them at times with vinegar, till they are almoſt converted into ruſt; after which they are expoſed to a ſtrong reverberatory fire, till they become of a deep purple colour. This powder is found a good medicine in hæmorrhages and fluxes, the doſe being from ten to thirty grains; and the beſt way of adminiſtring it is in a bolus or pills.

The crocus of copper is otherwiſe called æs uſtum. See the article ÆS.

CROCUS METALLORUM, an emetic preparation of antimony and nitre, thus made: take an equal quantity of each, powder them ſeparately, then mixing them well together, throw the mixture by degrees into a red hot crucible, where it is to remain till melted thoroughly: this, after being ſeparated from the ſcoriæ, is to be kept for uſe. By boiling this crude crocus, firſt reduced to a fine powder, in water, and afterwards waſhing it with more hot water, till it comes off inſipid, is obtained the waſhed crocus of antimony, for the virtues of which ſee the article ANTIMONY.

CROFT, a little cloſe adjoining to a dwelling houſe, and encloſed for paſture or arable land, or any other particular uſe.

CROISADE, CRUSADE, or CRUZADO, a name given to the expeditions of the chriſtians againſt the infidels, for the conqueſt of Paleſtine; ſo called becauſe thoſe who engaged in the undertaking wore a croſs on their cloaths, and bore one on their ſtandard.

This expedition was alſo called the holy

war,

war, to which people flocked in great numbers out of pure devotion, the pope's bulls and the preaching of the priests of those days making it a point of conscience. The several nations engaged in the holy war were distinguished by the different colours of their crosses: the English wore white, the French red, the Flemish green, the Germans black, and the Italians yellow. From this enterprize several orders of knighthood took their rise. They reckon eight croisades for the conquest of the holy land: the first begun in the year 1095, at the solicitation of the greek emperor and the patriarch of Jerusalem.

CROISES, or CROIZES, in english antiquity, pilgrims bound for the holy land, or such as had been there; so called from a badge they wore in imitation of a cross. The knights of St. John of Jerusalem, created for the defence and protection of pilgrims, were particularly called croises: and so were all those of the english nobility, gentry, &c. who, in the reigns of Henry II. Richard I. Henry III. and Edward I. were *cruce signati*, that is, devoted for the recovery of the holy land.

CROISIERS, *crucigeri*, CROSS-BEARERS, a religious order founded in honour of the invention or discovery of the cross by the empress Helena.

They are dispersed in several parts of Europe, particularly in the Low Countries, France, and Bohemia, those in Italy being at present suppressed. These religious follow the rule of St. Augustine. They had in England the name of crouched friers.

CROISSANTE, in heraldry, is said of a cross, the ends of which are fashioned like a crescent or half moon. See CROSS.

CROMARTY, or CROMARTIE, the capital of the shire of Cromartie, in Scotland, with an excellent and safe harbour capable of containing the greatest fleets: west long. 3° 40′, and north lat. 57° 54′.

CRONENBURG, a fortress of Denmark, situated in the island of Zealand, at the entrance of the Sound, where the Danes take toll of ships bound for the Baltic: east longit. 12° 5′, and north lat. 56°.

CRONSLOT, or CROWN-CASTLE, a castle and harbour in a little island of the same name, at the mouth of the river Neva, and entrance of the gulph of Finland, in Russia, about twelve miles west of Petersburgh: east longitude 30°, and north latitude 60°. Here is a station for the russian men of war, and a yard for building and refitting them.

CRONSTAT, a town of Transilvania, situated near the frontiers of Moldavia, about fifty miles north-east of Hermanstat, and subject to the house of Austria: east long. 25°, and north lat. 47°.

CROP, the collection of corn, hay, &c. that any piece of ground affords.

The great business of the farmer is to produce the largest crops he can, and, at the same time, to injure his land the least. The common way of sowing exhausts the whole land, without giving half the nourishment that it might give to the corn. Instead of the scattering way of sowing corn by the hand, if it be let in with the drill, in single, double, treble, or quadruple rows, and an interval of five feet of naked ground be left between these series of rows, the use of horse-hoeing in these intervals will be found to give all that the farmer requires: the crops will be larger, though so great a quantity of ground is left vacant, than if all were sown over, as the plants will stand vastly thicker in the rows, and will have twenty or thirty stalks a-piece; and the more the successive crops are planted, and the oftener the ground is hoed in this manner, the better will the plants be maintained, and every crop will be larger and larger from the same ground, without dunging, or without changing the sort of plant, as is usually necessary in other cases. See the articles HUSBANDRY, and INTERVALS.

This is very evident in several parts of the same field, where this sort of husbandry has been entered upon at different times, and some have a first crop, others a second, and others a third, all growing up at the same time, the older worked land always invariably shewing the best crop. Dunging and fallowing are both necessary to recover land to its virtue, in the common way, after a few crops. These are both of them expences to the farmer; but the horse-hoeing, when the corn is sown in rows, answers all the intent of them, and is much less expensive. It has, in short, every year, the good effect of a summer fallow, though it every year produces a good crop, and no time, or use of it, is lost to the farmer.

CROP, or CRAW, of birds, *ingluvies*. See the article INGLUVIES.

CROPPER, in ornithology, the english name

name of a fpecies of pigeon, fo called from the large crop or bag under its beak. See the article PIGEON.

CROSETTES, in architecture, the returns in the corners of chambranles, or door-cafes, or window-frames, called alfo ears, elbows, aniones, *&c.*

CROSIER, or CROZIER, a fhepherd's crook; a fymbol of paftoral authority, confifting of a gold or filver ftaff, crooked at the top, carried occafionally before bifhops and abbots, and held in the hand when they give the folemn benedictions. The cuftom of bearing a paftoral ftaff before bifhops is very antient. Regular abbots are allowed to officiate with a mitre and crofier. Among the Greeks none but a patriarch had a right to the crofier.

CROSIER, in aftronomy, four ftars in the fouthern hemifphere, in the form of a crofs, ferving thofe who fail in fouth latitudes to find the antarctic pole.

CROSLET, or CROSSELET. See the article CROSSELET.

CROSS, *crux*, in antiquity, a fpecies of punifhment, or rather the inftrument wherewith it was inflicted, confifting of two pieces of wood, croffing each other. This punifhment was only inflicted on malefactors and flaves, and thence called *fervile fupplicium*. The moft ufual method was to nail the criminal's hands and feet to this machine, in an erect pofture; though there are inftances of criminals fo nailed with their head downward.

Invention of the CROSS, a feftival obferved on May 3, by the latin church, in memory of the emprefs Helena's (the mother of Conftantine) finding the true crofs of Chrift, on mount Calvary, where fhe erected a church for the prefervation of it.

Exaltation of the CROSS, a grand feftival folemnized on September, 14, in commemoration of Heraclius's reftoring to mount Calvary, the true crofs, that had been carried off by Cofroes king of Perfia, upon taking the city of Jerufalem.

Order of the CROSS, an order of ladies inftituted in 1668, by the emprefs Eleanora de Gonzagua, wife of the emperor Leopold, on occafion of the miraculous recovery of a little golden crofs, wherein were inclofed two pieces of the true crofs, out of the afhes of a part of the palace that had been burnt down: though the fire burnt the cafe wherein it was enclofed, and melted the cryftal, it appears that the wood had not received the leaft damage.

CROSS, in botany. See CRUCIFORM.

CROSS, in dialling. See DIAL.

CROSS, in heraldry, is defined by Guillim, an ordinary compofed of fourfold lines, whereof two are perpendicular, and the other two tranfverfe; for fo we muft conceive of them, though they are not drawn throughout, but meet, by couples, in four right angles, near about the feffe-point of the efcutcheon. The content of a crofs is not always the fame; for when it is not charged, it has only the fifth part of the field; but if it be charged, then it muft contain the third part thereof.

This bearing was beftowed on fuch as had performed, or, at leaft, undertaken fome fervice for Chrift and the chriftian profeffion; and is therefore held by feveral authors the moft honourable charge in all heraldry. What brought it into fuch frequent ufe was the antient expeditions into the holy land, the crofs being the enfigns of that war.

In thefe wars, fays Mackenzy, the Scots carried St. Andrew's crofs; the French, a crofs, argent; the Englifh, a crofs, or; the Germans, fable; the Italians, azure; the Spaniards, gules.

Guillim enumerates thirty-nine different croffes ufed in heraldry, the feveral names whereof follow: 1. A crofs voided. 2. A crofs wavy voided. 3. A crofs patee fimbriated. 4. A crofs patee fitched in the foot. 5. A crofs patee on three parts, and fitched on the fourth. 6. A crofs engrailed. 7. A crofs potence. 8. A crofs flory. 9. A crofs potence voided. 10. A crofs avelane. 11. A crofs patee lambeaux. 12. A crofs furchee. 13. A crofs croflet. 14. A crofs croflet fitchee at the point. 15. A crofs botone. 16. A crofs pomel. 17. A crofs urdee. 18. A crofs degraded fitchee. 19. A crofs potent. 20. A crofs potent fitched. 21. A crofs calvary. 22. A crofs croflet fet on degrees. 23. A crofs patriarchal. 24. A crofs anchored. 25. A crofs moline. 26. A crofs clechee. 27. A crofs fleury or fleur-de-lifee. 28. A crofs double fitchee. 29. A crofs a feize points. 30. A crofs milrine. 31. A crofs raguled. 32. A crofs pointed voided. 33. A crofs pall. 34. A tau, or St. Anthony's crofs. 35. A crofs voided and couped. 36. A crofs couped pierced. 37. A crofs moline pierced lozenge-

zenge-wiſe. 38. A croſs moline quarter-pierced. 39. A ſaltier, or St. Andrew's croſs. See the articles VOIDED, WAVY VOIDED, *&c.*

Columbier makes eighty-two diſtinct ſorts of croſſes, of which we ſhall only mention ſuch as differ from thoſe enumerated above, as, 1. A croſs remplee, which is only one croſs charged with another. 2. A croſs party, that is, one half of one colour, and the other of another. 3. A croſs quartered, that is, the oppoſite quarters of ſeveral colours. 4. A croſs of five pieces, that is, of ſo many colours. 5. A croſs mouſſue and alaiſee. 6. A croſs barbee. 7. A croſs croiſſantee or creſcented, that is, having a creſcent at each end. 8. A croſs forked of three points. 9. A croſs pomettee of three pieces. 10. A croſs reſſercellee. 11. A croſs pointed. 12. A croſs anchored and ſuranchored. 13. A croſs anchored with ſnakes heads. 14. A croſs orled. 15. A high croſs. 16. A croſs rayonnant. 17. A croſs of Malta. 18. A croſs of the Holy Ghoſt. 19. A croſs forked like the antient reſts for muſquets. 20. A croſs with eight points. 21. A croſs bourdonnee. 22. A croſs cramponnee. 23. A croſs cablee. 24. A croſs inclining. 25. A croſs paternoſtree, made of beads. 26. A croſs treſle. 27. A croſs fleuronnee. 28. A vuidee, clechee, and pommettee. 29. A croſs crenellee and baſtillee. 30. A croſs with four ſteps to every arm. 31. A croſs rounded. 32. A croſs and a half. 33. A croſs eſtoille. 34. A croſs corded. 35. A croſs doubled of ſix pieces ſet together. 36. A double croſs ſplit in pale. 37. A long croſs cut in pieces and diſmembered. 38. A croſs couped or cut through in feſs, of the two contrary colours to the field. 39. A chevron ſurmounted of an half croſs. 40. Four tails of ermine in a croſs. 41. Four pieces of vair, placed croſs-ways, and counterpointing in the center. 42. The croſs or ſword of St. James. 43. A croſs potence cramponnee on the dexter upper arm, and potence about the middle of the ſhaft.

CROSS, in ſurveying, an inſtrument conſiſting of a braſs circle, divided into four equal parts, by two lines interſecting each other at the center; at the extremity of each line there is a ſight fixed, ſtanding perpendicularly over the line, with holes below each ſlit, for the better diſcovery of diſtant objects. This inſtrument is mounted on a ſtand, and is but little known, and leſs uſed among us, though abroad it is often uſed in ſurveying. See SURVEYING.

CROSS-BAR-SHOT, a bullet with an iron-bar paſſing through it, and ſtanding ſix or eight inches out at both ſides: it is uſed at ſea, for deſtroying the enemy's rigging.

CROSS BATTERY, in the military art. See the article BATTERY.

CROSS-BILL, in ornithology, the engliſh name of the loxia. See the article LOXIA.

CROSS-GRAINED, in joinery. Timber is ſaid to be croſs-grained, where a bough, or ſome branch, ſhoots out on a part of the trunk of the tree; for the grain of the branch, ſhooting forward, runs acroſs that of the trunk; and if it be in wood well grown, it will ſcarce be perceived, except in working.

CROSS-JACK, in a ſhip, a yard ſlung at the upper end of the mizen-maſt, without any halliards or ties, and uſed to ſpread and hale on the mizen-top-ſail ſheets.

CROSS MULTIPLICATION, in arithmetic. See the article MULTIPLICATION.

CROSS-STAFF, the ſame with fore-ſtaff. See the article FORE-STAFF.

CROSS-TREES, in a ſhip, four pieces of timber, bolted and let into one another acroſs, at the head of the maſt. Their uſe is to keep and bear the top-maſt up; for the foot of the top-maſt is always faſtened into them.

CROSS-WORT, in botany, the engliſh name of the cruciata, or valantia of authors. See the article VALANTIA.

It is ſaid to be one of the principal vulneraries, and a good expectorant.

CROSSELET, a little or diminutive croſs, uſed in heraldry, where the ſhield is frequently ſeen covered with croſſelets; alſo feſſes and other honourable ordinaries, charged or accompanied with croſſelets. Croſſes frequently terminate in croſſelets. See plate LXII. fig. 5.

CROSSEN, a town of Sileſia upon the Oder, ſituated in 15° 30′ eaſt longitude, and 52° 5′ north latitude.

CROTALARIA, in botany, a genus of the diadelphia-decandria claſs of plants, whoſe flower is papilionaceous; the vexillum is cordated, acute, large, and depreſſed at the ſides; the alæ are ovated, and only as long as half the vexillum; the carina is acuminated, and of the length of the alæ; the root is a ſhort turgid pod, conſiſting of one cell, and containing two valves;

valves; the feed is either one or two, globofe and kidney-fhaped.

CROTALOPHORUS, the RATTLE-SNAKE, in zoology. See the article RATTLE-SNAKE.

CROTALUM, in antiquity, a kind of caftagnettas, or mufical inftruments, found on medals, in the hands of the priefts of Cybele.

The crotalum differed from the fiftrum, though authors often confound the two. It confifted of two little brafs plates, or rods, which were fhook in the hand, and ftriking againft each other, made a noife.

CROTAPHITES, in anatomy, a mufcle of the lower jaw, ferving to draw it upwards. Its fibres fpring from the bones of the forehead, the finciput, fphenoides, and temporale, which meeting, and, as it were, entering under the os jugale, whence alfo this mufcle receives fome fibres, proceed to the proceffus corone, into which they are inferted.

CROTCHES, in fhip-building, very crooked timbers in the hold or bread-room, from the mizen-ftep aft, fayed crofs the keelfon, to ftrengthen the fhip in the wake of the half-timbers. See plate LVIII. fig. 6. n° 1.

Iron-CROTCHES, crooked pieces of iron, ufed on board floops and long-boats, which go with fhoulder-of-mutton-fails, for the boom to lodge on. *Ibid.* n° 2.

CROTCHET, in mufic, one of the notes or characters of time, marked thus 𝅘𝅥, equal to half a minim, and double of a quaver. See the articles CHARACTER, MINIM, and QUAVER.

A dot added to the crotchet thus 𝅘𝅥., increafes its time by one half, that is, makes it equal to a crotchet and a half.

CROTCHET, in printing, a fort of ftraight or curved line, always turned up at each extreme; ferving to link fuch articles as are to be read together; and ufed in analitical tables, *&c.* for facilitating the divifions and fubdivifions of any fubject.

CROTCHETS are alfo marks or characters, ferving to inclofe a word or fentence, which is diftinguifhed from the reft, being generally in this form [ ] or this ( ).

CROTON, TURNSOLE PLANT, in botany, a genus of plants of the monoecia-polyandria clafs, the male flowers of which being lefs than the female flowers, confift of five oblong obtufe petals, fcarce larger than the cup: the petals of the female flower are the fame as in the male; the fruit is a roundifh capfule with three cells, each cell having two valves; the feeds are folitary, large, and ovated.

CROTOY, a town of France, fituated in the province of Picardy, at the mouth of the river Somme: eaft long. 1° 30′, and north lat. 50° 15′.

CROUP *of a horfe*, in the manege, the extremity of the reins above the hips.

The croup fhould be large and round, fo that the tops of the two hanch-bones be not within view of each other. It fhould have its compafs from the hanch-bones to the very dock or onfet of the tail; and fhould be divided in two by a channel or hollow all along to the dock.

A rocking croup is when a horfe's fore quarters go right, but his croup fwings from fide to fide: when fuch a horfe trots one of the hanch-bones will fall and the other rife, like the beam of a balance; a fign that he will not be very vigorous.

CROUPADE, in the manege, a leap, in which the horfe pulls up his hind legs, as if he drew them up to his belly. Croupades differ from caprioles and balotades, in this, that in croupades the horfe does not jerk, as he does in the other two airs.

CROUPER, or CRUPPER. See the article CRUPPER.

CROW, or CARRION-CROW, in ornithology, the englifh name of a fpecies of corvus, about the fize of the largeft tame pigeon, and all over of a fine deep black colour, with large eyes and reflex briftles at the noftrils. See plate LXI. fig. 1. n° A.

Royfton CROW, the englifh name of another fpecies of corvus, with the body grey, the head, throat, wings, and tail black. See plate LXI. n° B.

Scare CROW, the englifh name of the black larus, with grey wings and red legs. See the article LARUS.

CROW, in mechanics, a kind of iron-lever with a claw at one end, and a fharp point at the other: ufed for heaving or purchafing great weights. See plate LVII. fig. 5.

CROW'S BILL, among furgeons, a kind of forceps, for drawing bullets and other foreign bodies out of wounds.

CROW'S FEET, in the military art, machines of iron, having four points, each about three or four inches long, fo made that whatever way they fall, there is ftill a point up: they are thrown upon breaches or in paffes where the enemy's cavalry are to march, proving very troublefome by running into the horfe's feet and laming them.

CROW'S FEET, in a fhip, fmall lines or ropes,

ropes, sometimes eight or ten, reeved through the deadmen's eyes; and scarce of any other use than to make a shew of small rigging. They are usually placed at the bottom of the back-stays of the fore-top-mast, mizen-top-mast, and gallant-top-mast. See plate LVI. fig. 1.

CROW'S FOOT, the english name of the ranunculus. See RANUNCULUS.

CROW-NET, a device for taking wild-fowl in winter, being a net about ten yards long, and three wide, with meshes about two inches in width, verged on the sides with good strong cord, and extended out very stiff, upon long poles made for that purpose. It may be used for pigeons, crows, and the like, in corn fields newly sown, or in stubble-fields.

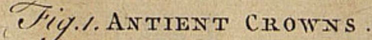
CROW-STAVES, the two upright pieces inserted into the box of a plough, and bored with a number of holes, by means of which they support a transverse piece called the pillow of the plough. See the article PLOUGH.

CROWLAND, a market-town of Lincolnshire: west long. 10′, and north lat. 52° 40′.

CROWN, an ornament worn on the head by kings, sovereign princes, and noblemen, as a mark of their dignity.

In scripture there is frequent mention of crowns, and the use of them seems to have been very common among the Hebrews. The high priest wore a crown, which was a fillet of gold placed upon the forehead, and tied with a ribbon of hyacinth colour, or azure blue. It seems also as if private priests, and even common Israelites wore also a sort of crown, since God commands Ezekiel not to take off his crown, nor assume the marks of one in mourning. This crown was no more than a ribbon or fillet, with which the Jews and several people in the east girt their heads. And indeed the first crowns were no more than a bandelet drawn round the head, and tied behind, as we still see it represented on medals round the heads of Jupiter, the Ptolemy's, and kings of Syria. Afterwards they consisted of two bandelets: by degrees they took branches of trees of divers kinds; at length they added flowers, insomuch that Claudius Saturninus says, there was not any plant whereof crowns had not been made. The woods and groves were searched to find different crowns for the several deities; and they were used not only on the statues and images of the gods, by the priests in sacrificing, and by kings and emperors, but also on altars, temples, doors of houses, sacred vessels, victims, ships, &c. Some authors conclude, from passages in Eusebius Cæsarensis, that bishops had likewise antiently their crowns.

The roman emperors had four kinds of crowns, still seen on medals, *viz.* a crown of laurel, a radial or radiating crown, a crown adorned with pearls and precious stones, and the fourth a kind of bonnet or cap, something like the mortier. The Romans had also various kinds of crowns, which they distributed as rewards of military atchievements; as, 1. The oval crown, made of myrtle, and bestowed upon generals, who were entitled to the honours of the lesser triumph, called ovation. See OVATION. 2. The naval or rostral crown, composed of a circle of gold, with ornaments representing beaks of ships, and given to the captain who first grappled, or the soldier who first boarded, an enemy's ship. Lipsius believes the corona navalis and rostrata, to have been two distinct species, but they are generally thought to have been the same. 3. The crown called in latin, vallaris, or castrensis, a circle of gold raised with jewels or palisades; the reward of him who first forced the enemy's entrenchments. 4. The mural crown, a circle of gold indented and embatteled; given to him who first mounted the wall of a besieged place, and there lodged a standard. 5. The civic crown, made of the branch of a green oak, and given to him who had saved the life of a citizen. 6. The triumphal crown, consisting at first of wreaths of laurel, but afterwards made of gold; proper to such generals as had the honour of a triumph. 7. The crown called obsidionalis, or graminea, made of grass growing on the place; the reward of a general who had delivered a roman army from a siege. 8. The crown of laurel, given by the Greeks to their athletæ; and by the Romans to those who had negociated or confirmed a peace with an enemy: this was the least honourable of all. We meet also with the corona aurea, often bestowed on soldiers, without any other additional term; the radial crown, given to princes at their translation among the gods; athletic crowns, and crowns of laurel, destined to crown victims at the public games, poets, orators, &c. All those crowns were marks of nobility to the wearers; and upon competitions with rivals for rank and dignities,



















J. Jefferys sculp.

ties, often determined the preference in their favour. See plate LIX. fig. 1. n° 1, 2, 3, *&c.*

CROWN, in heraldry, is used for the representation of that ornament, in the mantling of an armory to express the dignity of persons.

Radiated or pointed crowns, are those of the antient emperors, which had twelve points, representing, as is thought, the twelve months of the year. Those crowns were called pearled or flowered, which have pearls or leaves of smallage, parsley, *&c.* Such were antiently almost all crowns, even those of sovereign princes, though they were not used on their armories till about two hundred years ago.

The imperial CROWN is a bonnet or tiara, with a semicircle of gold, supporting a globe with a cross at top. See plate LIX. fig. 2. n° 1.

The british CROWN is adorned with four crosses, between which there are four fleurs de lis: it is covered with four diadems, which meet at a little globe supporting a cross. *Ibid.* n° 2.

The french CROWN is a circle of eight fleurs de lis, encompassed with six diadems, bearing at top a double fleur de lis, which is the crest of France. *Ibid.* n° 3.

The spanish CROWN is adorned with large indented leaves, and covered with diadems terminating in a globe, surmounted with a cross. *Ibid.* n° 4.

The crowns of almost all other kings are adorned with large leaves, bordered with four, six, or eight diadems, with a globe and cross at top.

The papal CROWN is composed of a tiara and a triple crown encompassing it, with two pendants like the bishop's mitres. These crowns represent the pretended triple capacity of the pope, as high priest, supreme judge, and sole legislator of christians. *Ibid.* n° 5.

An electoral CROWN, or coronet, is a scarlet cap turned up with ermine, and closed with a semicircle of gold, all covered with pearls, with a globe at top, surmounted with a golden cross. *Ibid.* n° 6.

CROWNS *of british princes of the blood.* 1. The prince of Wales's crown consists alternately of crosses and fleurs de lis, with one arch, in the middle of which is a ball and cross, as in the royal diadem. 2. That of all the younger sons and brothers of the king, consists likewise of crosses and fleurs de lis alternately, but without any arch, or being surmounted with a globe and cross at top. 3. That of the other princes of the blood consists alternately of crosses and leaves like those in the coronet of dukes, *&c.* *Ibid.* fig. 3. n° 1, 2, 3.

CROWNS *of noblemen* are a duke's, composed of leaves of smallage, or parsley: that of a marquis, of flowers and pearls placed alternately: an earl's has no flowers about the circle, like the duke and marquis, but only points rising, and a pearl on every one of them: a viscount has neither flowers nor points raised above the circle, like the other superior degrees, but only pearls placed on the circle itself without any limited number: a baron's has only six pearls on the golden border, not raised, to distinguish him from the earls; and the number of them limited to shew he is inferior to the viscount. *Ibid.* fig. 4. n° 1, 2, 3, *&c.*

CROWN-ROYAL, an order of knighthood instituted, as is said, by Charlemain, to reward the Friezlanders, who had done him eminent service in his wars against the Saxons. The knights bore an imperial crown embroidered with gold as a badge of their honour. Father Heylot thinks that this order never existed but in the imagination of some modern writers.

CROWN, in commerce, a general name for coins both foreign and domestic, which are of, or very near, the value of five shillings sterling. See the article COIN.

CROWN, in architecture, denotes the uppermost member of the corniche, called also corona, and larmier. See the article LARMIER.

CROWN, in astronomy, a name given to two constellations, the one called borealis, the other meridionalis. See the article CORONA.

CROWN, in an ecclesiastical sense, is used for the clerical tonsure, which is the mark and character of ecclesiastics of the romish church. It is a little circle of hair shaved from the crown of the head, more or less large, according to the quality of the orders received. That of a mere clerk is the smallest, that of priests and monks the largest.

CROWN, in geometry, is a plane ring included between two concentric perimeters, and is generated by the motion of some part of a right line round a center, the said moving part not being contiguous to the center.

The area of a crown will be had by multiplying its breadth by the length of the middle periphery; for a series of terms in arith-

arithmetic progreſſion being $n \times \frac{a+w}{2}$, that is, the ſum of the firſt and laſt multiplied by half the number of terms, the middle element muſt be $\frac{a+w}{2}$; wherefore that multiplied by the breadth, or ſum of all the two terms, will give the crown.

CROWN *of colours*, certain coloured rings which like halos appear about the body of the ſun or moon, but of the colours of the rainbow, and at a leſs diſtance than the common halos. Theſe crowns, Sir Iſaac Newton ſhews to be made by the ſun's ſhining in a fair day, or the moon in a clear night, through a thin cloud of globules of water or hail all of the ſame bigneſs. And according as the globules are bigger or leſſer, the diameters of theſe crowns will be larger or ſmaller; and the more equal theſe globules are to one another, the more crowns of colours will appear, and the colours will be the more lively.

CROWN-OFFICE, an office that belongs to the king's bench court, of which the king's coroner or attorney is commonly maſter. In this office, the attorney general and clerk of the crown ſeverally exhibit informations for crimes and miſdemeanors at common law, as in the caſe of batteries, conſpiracies, libelling, *&c.* on which the offender is liable to pay a fine to the king.

Clerk of the CROWN. } See { CLERK.
Pleas of the CROWN. } See { PLEA.
Officers of the CROWN. } See { OFFICER.

CROWN-GLASS, denotes the fineſt ſort of window-glaſs. See the article GLASS.

CROWN-GRAFTING. See GRAFTING.

CROWN-POST, in architecture, a poſt which in ſome buildings ſtands upright in the middle between two principal rafters, and from it there go ſtruts or braces to the middle of each rafter. It is ſometimes called a king's piece, or joggle piece.

CROWN-WHEEL *of a watch*, the upper wheel next the balance, which by its motion drives the balance, and in royal pendulums is called the ſwing-wheel.

CROWN-WORK, in fortification, an outwork having a very large gorge, generally the length of the curtin of the place, and two long ſides terminating towards the field in two demi-baſtions, each of which is joined by a particular curtin to a whole baſtion, which is the head of the work. The crown-work is intended to incloſe a riſing ground, or to cover the head of a retrenchment.

CROWN-IMPERIAL, *corona imperialis*, in botany, is ranked by Linnæus under the fritillaria. See FRITILLARIA.

CROWN-IMPERIAL-SHELL, a beautiful ſpecies of voluta, the head of which is ſurrounded with a ſeries of ſharp pointed tubercles, ſo as to reſemble an open crown: it has alſo two broad and very beautiful zones running round it.

CROWNED, in general, ſomething ornamented with a crown. See CROWN.

CROWNED, in the manege; a horſe is ſaid to be crowned, when, by a fall, or any other accident, he is ſo hurt or wounded in the knee, that the hair ſheds and falls off, without growing again.

CROWNED HORN-WORK, in fortification, a horn-work with a crown-work before it. See CROWN-WORK.

CROWNED TOPS, the firſt head of a deer, ſo called becauſe the croches are raiſed in form of a crown. See CROCHES.

CROWNING, in architecture, is underſtood of any thing that finiſhes a decoration. Thus a corniche, a pediment, acroteria, are called crownings. See the article ACROTERIA.

Thus alſo the abacus is ſaid to crown the capital. And any member or moulding is ſaid to be crowned, when it has a fillet over it. And a niche is crowned when it is covered with a capital.

CROYDON, a market-town in Surry, about ten miles ſouth of London.

CRUCIAL INCISION, in ſurgery, an inciſion made in form of a croſs.

CRUCIANELLA, in botany, a genus of the tetrandria-monogynia claſs of plants. The flower conſiſts of one ſingle petal: the tube is of the figure of a cylinder, larger than the cup, and the limb is quadrifid and ſmall. The fruit is two capſules growing together, and containing oblong ſolitary ſeeds.

CRUCIBLE, a chemical veſſel made of earth, and ſo tempered and baked as to endure the greateſt fire. They are uſed to melt metals, and to flux minerals, ores, *&c.*

The figure of a crucible is commonly that of an obtuſe conoid, with its baſe at the top, and obtuſe apex at the bottom; whence this conical figure may be varied, till it comes to the hollow ſegment of a ſphere. It is a rule that the lower and wider they are made, the more eaſily the volatile matter flies from the fixed, and that the fire is applied to more of the ſur-

face, both of the whole fubject and its fixed part. See plate LVII. fig. 2.

The crucibles moft generally ufed are thofe of Heffe and Auftria; but becaufe the former are fandy, and cannot fuftain the fire after they are made wet, and the latter are blackifh, from the admixture of iron in their compofition, thofe of Heffe are lefs capable of refifting lead, and thofe of Auftria lefs proper for the preparation of falts and antimony. Befides, when the crucible is required to be pretty large, the Heffian ones are very inconvenient; for they can fcarce be ufed more than once: they muft be heated very equably and gradually, and if they are touched with tongs, *&c.* unlefs when red hot, they immediately fplit: and thofe of Auftria, when new, hurt both the colour and ductility of gold and filver. For thefe reafons, many prefer the mixture of which the glafs-founders make their crucibles. Others order a mixture of the powder of common tiles, chalk, and linfeed oil; and others, a large piece of chalk to be cut into the form of a crucible, and boiled in linfeed oil for twenty-four hours. There are many other compofitions for making crucibles, for which we refer the reader to *Cramer*'s *Elementa Artis Docimafticæ*.

CRUCIFIX, a crofs upon which the body of Chrift is faftened in effigy, ufed by the roman catholics to excite in their minds a ftrong idea of our Saviour's paffion.

They efteem it an effential circumftance of the religious worfhip performed at the altar; and on Good Friday they perform the ceremony of adoring it, which is done in thefe words, *O crux ave, fpes unica*; *hail thou crofs, our only hope.* The officiating prieft uncovers the crucifix, elevates it with both his hands, and fays, *ecce lignum crucis*; *behold the wood of the crofs.* The people anfwer, *in quo falus mundi pependit*; *on which the Saviour of the world fuffered death.* Then the whole congregation bow with great reverence, and devoutly kifs the holy wood.

CRUCIFIXION, a capital punifhment by nailing the criminal to a crofs. See the article CROSS.

CRUCIFORM, in general, fomething difpofed crofs-wife; but more efpecially ufed by botanifts, for flowers confifting of four petals difpofed in the form of a crofs: fuch are the flowers of cabbage, rocket, wall-flower, *&c.* See FLOWER. From this ftructure of the flower, Tournefort has denominated one of his claffes of plants *cruciformes*; comprehending all plants with cruciform-flowers, called by Linnæus tetradynamia. See the articles TETRADYNAMIA and BOTANY.

CRUCIS EXPERIMENTUM. See the article EXPERIMENTUM-CRUCIS.

CRUDITY, among phyficians, is applied to undigefted fubftances in the ftomach; to humours in the body which are unconcocted, and not prepared for expulfion; and to the excrements. There are two remarkable crudities in the ftomach, the acid and nidorofe. The firft is when the aliments turn into a fixed acid liquamen more or lefs vifcid, being not fufficiently attenuated and volatilized, which is the origin of chronical difeafes. An acid crudity difcovers itfelf by the heartburn, by acid eructations in abundance, and by coftivenefs. It is corrected by abforbent and alkaline medicines, by volatile aromatics, *&c.* after which cathartics may be given; for if this method be not obferved, purging medicines will not make their proper evacuations, but only caufe gripings and fpafms in the bowels. A nidorofe crudity is when the aliments are fo far corrupted, that they are turned into a putrilaginous liquamen of a very unfavory tafte and fmell, which is called a nidor. It is attended with fetid eructations fomething like the fmell of fried eggs, or ftinking fifh; and very often with the heart-burn, and a fort of naufea rifing into the mouth from the ftomach. With relation to the cure, an emetic fhould be given, or at leaft the body gently purged with rhubarb and tamarinds, after which acidulated juleps are good.

The crudity of the humours or morbific matter in a difeafe, is difcovered chiefly from a fault in the quantity or quality of the circulating as well as the fecreted humours, as of fweat, mucus, faliva, urine, pus, blood, *&c.*

Crudity of the urine is a bad fign in fevers; in ardent fevers it is a fign of phrenfy.

CRUISE, in the fea-language, fignifies to fail back and fore within a certain fpace of the fea, as well to annoy the enemy, as to protect our own trading veffels.

CRUISERS, in the britifh navy, men of war fent upon a cruife. See the article CRUISE.

CRUOR, among anatomifts, fometimes fignifies the blood in general; fometimes only the venous blood; and fometimes extravafated, or coagulated blood.

CRUPPER, in the manege, the buttocks of a horſe, the rump; alſo a thong of leather put under a horſe's tail, and drawn up by thongs to the buckle behind the ſaddle, ſo as to keep him from caſting the ſaddle forwards on his neck.

CRURA CLITORIDIS, in anatomy, two legs of the clitoris, which run from the oſſa pubis, and are three times as long as the clitoris in its natural ſtate. See the article CLITORIS.

CRURA MEDULLÆ OBLONGATÆ, the two largeſt legs or roots of the medulla oblongata, which proceed from the cerebrum. See BRAIN, CEREBRUM, and MEDULLA OBLONGATA.

CRURÆUS, or CRUREUS MUSCULUS, in anatomy, a fleſhy maſs, covering almoſt all the foreſide of the os femoris, between the two vaſti, which likewiſe cover the edges of this muſcle on each ſide. It is fixed to the foreſide of the os femoris, from the anterior ſurface of the great trochanter, down to the loweſt quarter of the bone, by fibres which run down ſucceſſively over each other, between the two vaſti; and are partly united to theſe two muſcles, ſo that they do not ſeem to form a diſtinct muſcle.

CRURAL, in anatomy, an epithet given to the artery which conveys the blood to the crura, or legs, and to the vein by which this blood returns towards the heart. The crural artery ſprings from the external branch of the iliac artery, upon which it lies, and is divided into two parts, the external and internal: the external is ſmaller, and is diſtributed throughout the exterior part of the thigh; the internal is larger, and forms the popliteæ, the ſurales, and the tibial arteries, and is afterwards, from the extremities of theſe, divided into a multitude of branches, to which anatomiſts have given no name, in the foot. The crural vein, which runs to the feet, and the internal branch of which, towards the internal malleolus, is called the ſaphæna; and its external about the knee, poplitæa; in the intermediate part of the leg it is called ſuralis; and about the great toe of each foot, the cephalic vein of the foot.

CRUS, in anatomy, all that part of the body contained between the buttocks and the toes; it is divided into the thigh, leg, and foot. See the articles THIGH, LEG, and FOOT.

CRUSCA, an italian term ſignifying bran, is in uſe amongſt us to denote that celebrated academy called della cruſca, eſtabliſhed at Florence, for purifying and perfecting the tuſcan language.

As this academy took its name from its office, which is to refine the language, and ſeparate it from the bran, its device is a ſieve, and the motto, IL PIU BEL FIOR NE COGLIE. That is, *it gathers the fineſt flour thereof.* In the apartment where the academy meets, every thing bears alluſion to the name and device. The ſeats are in form of a baker's baſket, and the cuſhions reſemble ſacks.

CRUSTA VILLOSA, in anatomy, the fourth tunic, or coat, of the ſtomach. See the article STOMACH.

Innumerable villi, or fibrillæ, are ſeen on the inner ſurface of this coat, riſing every where perpendicularly from it, ſuppoſed, by Dr. Drake, to be excretory ducts to the ſubjacent glands.

CRUSTA LACTEA, in medicine, the ſame with achor, being ſcabby eruptions with which the heads of children are often troubled. See the article ACHOR.

In the cure, externals, eſpecially ſuch as are repellent, ſhould be avoided; and things ſhould be given inwardly which correct and temperate the blood, and expel the noxious matter by a diaphoreſis. After the *primæ viæ* are purged, both the nurſe and child ſhould take alexipharmics in the morning, and the teſtaceous powders, with calx antimonii, amber and cinnabar, in the afternoon.

CRUYS-AGE, a ſpecies of ſhark with a triangular head, ſomewhat approaching to the figure of that of the zygæna, or hammer-headed ſhark. See ZYGÆNA.

CRUZ, or St. CROIX, one of the Caribbee-iſlands, ſituated about ſixty miles ſouth-eaſt of Porto Rico, weſt longitude 64°, and north latitude 17° 30′.

CRUZADO, the ſame with croiſade. See the article CROISADE.

CRYPTOGAMIA, κρυπτογαμια, one of Linnæus's claſſes of plants, the organs of fructification of which is either concealed within the fruit itſelf, or ſo minute as to eſcape obſervation. See BOTANY.

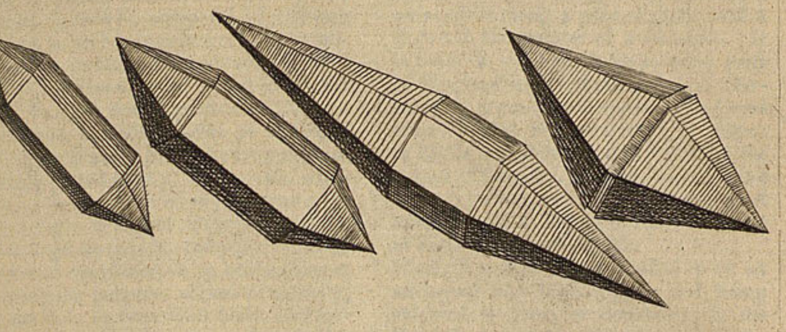
To this genus belong the moſſes, muſhrooms, ferns, liver-worts, &c. See the articles MOSS, MUSHROOM, &c.

CRYPTOGRAPHY, the art of writing in cipher, or with ſympathetic ink. See the articles CIPHER and INK.

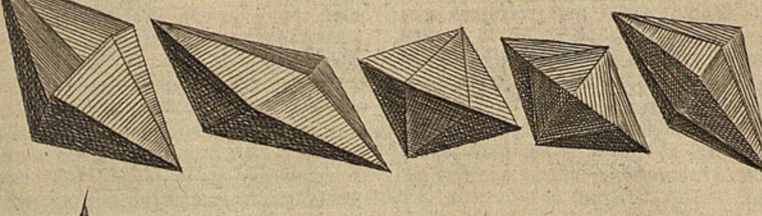
CRYSTAL, κρυςαλλος, in natural hiſtory, the name of a very large claſs of foſſils; hard, pellucid, and naturally colourleſs; of regularly angular figures, compoſed of

CRYSTALS.

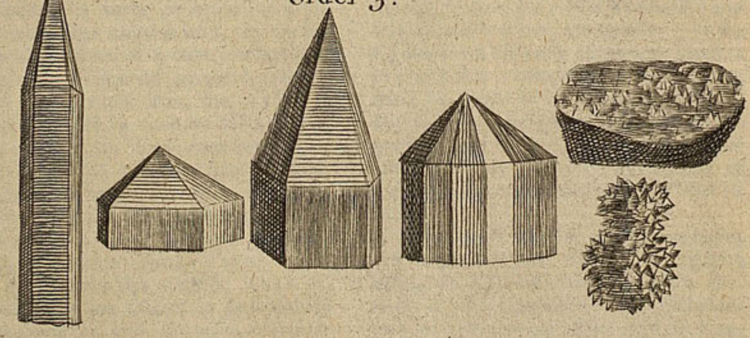
Order 1.



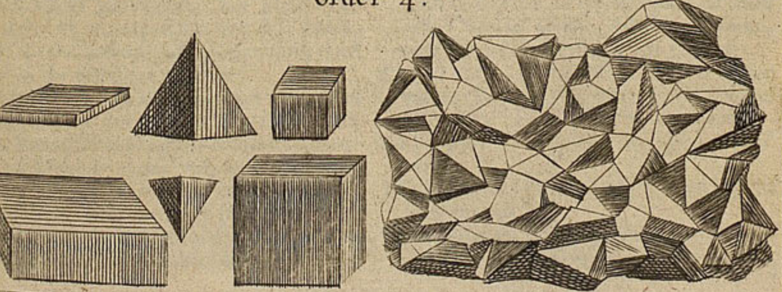
Order 2.



Order 3.



Order 4.



J. Jeffery sculp.

of simple, not filamentous plates; not flexible nor elastic, giving fire with steel; not fermenting in acid menstrua, and calcining in a strong fire.

The orders of pure crystal are three; the first is perfect columnar crystals, with double pyramids, composed of eighteen planes, in an hexangular column, terminated by an hexangular pyramid at each end: the second order is that of perfect crystals, with double pyramids, without a column, composed either of twelve or of sixteen planes, in two hexangular pyramids, joined closely, base to base, without the intervention of any column: the third order is that of imperfect crystals, with single pyramids, composed either of twelve or ten planes, in an hexangular or pentangular column, affixed irregularly, at one end, to some solid body, and terminated, at the other, by an hexangular or pentangular pyramid.

These are all the general forms into which crystal, when pure, is found concreted: but under these there are almost infinite varieties in the number of angles, and the length, thickness, and other accidents of the columns and pyramids.

When crystal is blended with metalline particles at the time of its formation, it assumes a variety of figures wholly different from these, constituting a fourth order, under the name of metalline crystals: when that metal is lead, the crystal assumes the form of a cube; when it is tin, of a quadrilateral pyramid, with a broad base; when iron, the crystal is found concreted in rhomboidal crystals: these crystals are very common about mines; but the common spars, which are liable to be influenced in the same manner by the metals, and to appear in the very same form, are to be carefully distinguished from them. There is one very easy test for this purpose, which is, that all spars are subject to be dissolved by aqua-fortis, and effervesce violently only on their touching it: but it has no such effects on crystal. See plate LX. where n° 1. represents the first order, n° 2. the second, n° 3. the third, and n° 4. the metalline crystals.

The pebble crystal is common enough in all parts of the world; but that which is formed of hexangular columns, affixed to a solid base at one end, and terminated by a hexangular column at the other, is infinitely more so: this is what we call sprig or rock crystal, and is the species described by most authors under the name of crystal of the shops, or that kept for medicinal use.

It is to be chosen the clearest, purest, and most transparent that can be had: it should be proved to be no spar, by means of aqua-fortis, or by drawing a point of it along a pane of glass, which it cuts in the manner of a diamond. It is found in vast abundance in many parts of England and Ireland; and in Germany, it is yet more frequent. It is found about Bristol of an amethystine tinge: in Silesia and Bohemia it is stained to the colour of the ruby, sapphire, emerald and topaz, in which case jewellers make great advantage of it, selling it under the name of accidental sapphire, &c.

Medical writers report crystal to be an astringent and lithontriptic; and being calcined, is given in diarrhœas, in the fluor albus, and in cases of gravel in the kidneys: it is also much recommended as a dentifrice; but it wears away the enamel of the teeth, and decays them.

With regard to the formation of crystal, various were the opinions of the antients, nor are the moderns less undetermined. Dr. Hill, by a careful analysis of water, proves that crystal, as well as spar, can be, and continually is, suspended in water, and raised in form of vapour; and waits only the proper evaporation of that vapour, to concrete; that its smallest and original concretions, are necessarily in the regular form the body afterwards appears in; and that a congeries of these, being made by means of attraction, are gradually dilated, and spread equally over the mass already formed, by the action of the ambient fluid, and that aggregates of these particles can therefore never alter its form.

CRYSTAL is also used for a factitious body, cast in glass-houses, called crystal-glass; being, in fact, no more than glass carried, in the composition and manufacture, to a greater perfection than the common glass.

The best kind of glass-crystal is that called Venice crystal, made at Moran, near Venice. See the article GLASS.

CRYSTALS, in chemistry, salts or other matters shot, or congealed, in the manner of crystal. See CRYSTALLIZATION.

CRYSTALS *of tartar*. See CREAM *of tartar*.

CRYSTAL MINERAL. See the article *Sal* PRUNELLÆ.

CRYSTALS *of silver*, or *lunar* CRYSTALS, are silver reduced into the form of salts, by

by the pointed acids of ſpirit of nitre. Theſe cryſtals are like the ſolutions of an immediate cauſtic: they burn the ſkin on the ſlighteſt touch. There is another kind prepared for internal uſe: theſe are a violent purgative, and are given in dropſies and palſies: their doſe is from three to eight grains. See SILVER.

CRYSTALS *of mars*, called alſo ſalt or vitriol of mars, a preparation of oil of vitriol and filings of iron, of uſe in opening obſtructions of all kinds, and ſtrengthening the viſcera. See PREPARATIONS *of* IRON.

CRYSTAL *of venus*, called alſo vitriol of venus, copper reduced into the form of vitriol by ſpirit of nitre. It is alſo uſed as a cauſtic. See the articles COPPER and VITRIOL.

CRYSTALLI, among phyſicians, eruptions about the ſize of a lupin, white and tranſparent, which ſometimes break out all over the body.

CRYSTALLINE, in general, ſomething compoſed of, or reſembling cryſtal. See the article CRYSTAL.

CRYSTALLINE HEAVENS, in antient aſtronomy, two ſpheres, imagined between the primum mobile and the firmament, in the ptolemaic ſyſtem, which ſuppoſes the heavens ſolid, and only ſuſceptible of a ſingle motion. See the article PTOLEMAIC SYSTEM.

According to Regio Montanus, the firſt cryſtalline ſerves to account for the ſlow motion of the fixt ſtars, cauſing them to advance a degree in ſeventy years, from weſt to eaſt, according to the order of the ſigns, which occaſions the proceſſion of the equinoxes: the ſecond ſerves to account for the motion of trepidation, whereby the celeſtial ſphere vibrates from one pole towards another, occaſioning a difference in the ſun's greateſt declination. The modern aſtronomers account for theſe motions in a more natural and intelligible manner. See EQUINOX and DECLINATION.

CRYSTALLINE HUMOUR, in anatomy, a thick, compact humour, in form of a flatiſh convex lens, ſituated in the middle of the eye, ſerving to make that refraction of the rays of light, neceſſary to make them meet in the retina, and form an image thereon, whereby viſion may be performed. See the article EYE.

It is included by the aſſiſtance of an extremely fine tunic in the fovea of the vitreous humour, and is ſuſpended by means of the ciliar ligament, between the aqueous and vitreous humour, immediately behind the pupil; in this place it hangs free, and is moveable by means of the ligament juſt mentioned. It is compoſed of a multitude of lamellæ, like the coats of an onion; and therefore alſo pellucid and vaſculous. There is alſo a ſmall quantity of the aqueous humour contained within or under its coat.

CRYSTALLIZATION, in chemiſtry, the concretion of a ſalt, before diſſolved in water. See the article SALT.

The intentional end of cryſtallization, is to render the ſalts pure and diſtinguiſhable, as well by freeing them from feculencies, and giving them their proper form, as by ſeparating each kind from every other with which they may happen to be mixed.

The manner of performing it is to make a ſaturate ſolution of the ſalts, in boiling water, either by adding the ſalts, if dry, to the water, or by evaporating the redundant water, if they were before diſſolved, and then putting the ſolution into a proper veſſel, and ſuffering it to ſtand at reſt, in a cool place, till the cryſtals are formed. This is perfected in a longer or ſhorter time, according to the degree of heat or cold of the weather. It is nevertheleſs beſt, not to be too haſty in taking out the cryſtals, for there will be ſome continuance of their increaſe for a conſiderable length of time, and the quantity therefore obtained, by each operation, proportionably greater. When the full quantity of cryſtals is formed, the remaining ſolution, called, in this caſe, the mothers, is to be poured off; and what the cryſtals retain, muſt be drained off from them, which may be beſt done by putting them into an earthen culendar, on a ſheet of filtering paper.

The cryſtals being thus taken from their mothers, they may be again evaporated, or dry ſalts may be added to them, whilſt boiling, till a ſaturation of the hot ſolution is again produced, and on their being treated as before, a ſecond quantity of cryſtals will be obtained. By the ſame method repeated, nearly the whole quantity of ſalts may be converted into cryſtals.

This is all that is neceſſary, when the ſalts are pure; but if they are mixed with any feculencies, it is requiſite that, before the ſolution is ſet to ſhoot, filtration ſhould be uſed.

CRYSTALLOIDES, the cryſtalline tunic

nic of the eye; a fine membrane containing the cryſtalline humour. See the article CRYSTALLINE HUMOUR.

CRYSTALLOMANCY, κρυϛαλλομαντεια, in antiquity, a kind of divination, performed by means of a mirror, wherein the figures of the things required are ſaid to have been repreſented.

CUB, a bear's whelp. Among hunters, a fox and martern of the firſt year, are called cubs.

CUBA, an iſland of North America, ſituated in the Atlantic ocean, between 74° and 87° of weſt long. and between 20° and 23° north lat. being eight hundred miles and upwards in length from eaſt to weſt, and generally about ſeventy miles broad. It lies about fifty miles weſt of Hiſpaniola, and ſeventy-five north of Jamaica.

CUBAGUA, an american iſland, ſituated between the iſland of Margaretta and Terra Firma, and ſubject to Spain: weſt long. 64°, and north lat. 10° 15′.

CUBATURE *of a ſolid*, in geometry, the meaſuring the ſpace contained in it; or finding the ſolid content of it.

CUBE, in geometry, a ſolid body, conſiſting of ſix equal ſquare ſides. See plate LVII. fig. 3. where ABCD conſtitutes the top ſquare, AEFB, one of the ſides, &c.

The ſolidity of any cube is found by multiplying the ſuperficial area of one of the ſides by the height. Cubes are to one another in the triplicate ratio of their diagonals; and a cube is ſuppoſed to be generated by the motion of a ſquare plane, along a line equal to one of its ſides, and at right angles thereto; whence it follows, that the planes of all ſections, parallel to the baſe, are ſquares equal thereto, and, conſequently, to one another.

CUBE, or CUBIC NUMBER, in arithmetic, that which is produced by the multiplication of a ſquare number by its root; thus, 64 is a cube number, and ariſes by multiplying 16, the ſquare of 4, by the root 4.

CUBE, or CUBIC *quantity*, in algebra, the third power in a ſeries of geometrical proportionals continued; as a is the root, $a\,a$ the ſquare, and $a\,a\,a$ the cube. All cubic numbers may be ranged into the form of cubes; as 8 or 27, whoſe ſides are 2 and 3, and their baſes 4 and 9; whence it appears, that every true cubic number, produced from a binomial root, conſiſts of theſe parts, *viz.* The cubes of the greater and leſſer parts of the root, and of three times the ſquare of the greater part multiplied by the leſſer, and of three times the ſquare of the leſſer multiplied by the greater, as,

$$\begin{array}{l} aa + 2ab + bb \\ a + b \\ \hline aaa + 2aab + abb \\ \qquad\quad aab + 2abb + bbb \\ \hline aaa + 3aab + 3abb + bbb \end{array}$$

From hence it is eaſy to underſtand both the compoſition of any cubic number, and the reaſon of the method for extracting the cube root out of any member given. See the following article.

CUBE *root of any number, or quantity*, ſuch a number, or quantity, which, if multiplied into itſelf, and then, again, the product thence ariſing, by that number or quantity, being the cube root, this laſt product ſhall be equal to the number or quantity whereof it is the cube root, as 2 is the cube root of 8, becauſe two times 2 is 4, and two times 4 is 8; and $a + b$ is the cube root of $a^3 + 3a^2b + 3ab^2 + b^3$.

Every cube number has three roots, one real root, and two imaginary ones, as the cube number 8 has one real root 2, and two imaginary roots, *viz.* $\sqrt{-3} - 1$ and $\sqrt{-3} + 1$; and generally if a be the real root of any cube number, one of the imaginary roots of that number will be $\frac{a + \sqrt{-3aa}}{2}$ and the other $\frac{a - \sqrt{-3aa}}{2}$. See EXTRACTION.

Duplication of a CUBE. See the article DUPLICATION.

CUBEBS, *Cubeba*, of the ſhops, in the materia medica, a ſmall dried fruit, reſembling a grain of pepper, but often ſomewhat longer, brought into Europe from the iſland of Java. They are to be choſen large, freſh and ſound. Cubebs are an aromatic, though not of a very ſtrong ſmell; and are acid and pungent to the taſte, though leſs ſo than pepper. They abound in a fine, thin, eſſential oil, which may be ſeparated from them, in very conſiderable quantities, by diſtillation, in an alembic, with water, in the common way; they are warm and carminative, and are eſteemed good in vertigoes, palſies, and in diſorders of the ſtomach. The Indians ſteep them in wine, and eſteem them provocatives to venery. The doſe is from three grains

to

to six or eight; but they are seldom given singly.

CUBIC, or CUBICAL, EQUATION, in algebra, one whose highest power consists of three dimensions, as $x^3 = a^3 - b^3$, or $x^3 + rxx = p^6$, &c. See the article EQUATION.

CUBIC *foot of any substance*, so much of it as is contained in a cube, whose side is one foot. See the article CUBE.

CUBIC HYPERBOLA. See the article HYPERBOLA.

CUBIC PARABOLA. See PARABOLA.

CUBIDIA, a genus of spars, so called from their being of the shape of a cube, or common dye. See the article SPAR.

CUBIT, in the mensuration of the antients, a long measure, equal to the length of a man's arm, from the elbow to the tip of the fingers.

Dr. Arbuthnot makes the english cubit equal to 18 inches; the roman cubit equal to 1 foot, 5,406 inches; and the cubit of the scripture equal to 1 foot, 9.888 inches.

CUBITÆUS, in anatomy, the name of two muscles; the one called cubitæus externus, being the first of the extensor muscles of the fingers, arises from the external extuberance of the humerus, and passing its tendon, under the ligamentum annulare, is inserted into the fourth bone of the metacarpus, that sustains the little finger: the other is the cubitæus internus, which ariseth from the internal extuberance of the humerus, and upper part of the ulna, upon which it runs all along, till it passes under the ligamentum annulare, and is inserted, by a strong and short tendon, into the fourth of the first order of the carpus.

CUBITUS, in anatomy, a bone of the arm, reaching from the elbow to the wrist, otherwise called the ulna. The cubitus, for the sake of the more easy and varied motion, is composed of a binary number of bones, called the cubitus, or ulna, and the radius. The situation of the ulna is interior, its length is greater than that of the radius, and has a motion of flexion and extension.

Fractured CUBITUS. The lower-part of the arm, which is called the cubitus, contains two bones, the radius and ulna: fractures of this part, therefore, sometimes happen only to one, sometimes to both these bones, and that sometimes near their extremities, but oftener toward their middle; but, when they are both broke together, the bones are not only very easily distorted from each other, but they are not to be replaced without very great difficulty also: if one only should, on the contrary, be broken, while the other remains whole, the fractured parts do not much recede out of their places, nor are they very difficult to reduce and retain; for the bone remaining sound is found, in this case, to be a better direction and support than either splints or bandages. When the fracture happens toward the lower head, near the pronator quadratus muscle, the fractured part is strongly drawn by that muscle, and the intervening ligament that is extended between the radius and ulna, toward the sound bone; and this makes it more difficult to replace. If the radius is to be replaced, whose fragment is contracted towards the ulna, an assistant must hold the arm, while the surgeon inclines the patient's hand towards the ulna, to draw back the contracted part of the radius. When this is done, he must carefully reduce them by compression on both sides with his hands, so as to restore the compressed muscle between the radius and ulna, and the fragments of the radius, to their proper places. In this case, Heister directs, that the arm be bound up with the proper bandage, and the limb be afterwards placed in a sort of case made of pasteboard or light wood, to be suspended in a sling put about the neck.

In setting a fracture of the ulna, the whole method must be the same with this of the radius, except that in the extension, the hand must be bent toward the thumb, and radius, before the distorted part of the ulna can be compressed into its proper place. When both bones of the cubitus are broken, the method of cure is much the same with that used to each of them, when broken singly; but there is required more strength and circumspection, both in the replacing them, and a great deal of caution in applying the bandage to retain them. Care must also be taken, that, while the arm continues in this case a great while, without motion, the mucilage of the joints does not harden, or the ligament become stiff, and the arm, or cubitus, be thereby rendered immoveable. To guard against this, it will be proper to unbind the arm once in two or three days, and to move it a little carefully and gently, backwards and forwards; and sometimes to foment it

it with warm water or oil, by which means its motion will be preferved.

Luxated CUBITUS. The cubitus confifting of two bones, the ulna and radius, is articulated by a gynglymus; and the connection of thefe bones is fuch, that the ulna, or cubitus, as being the largeft bone, and feated in the lower part of the arm, does of itfelf perform the whole flexion and extenfion of the arm, yet it cannot perform thofe motions without carrying the radius along with it; but, on the other hand, the radius may be turned along with the hand both inward and outward, without at all moving or bending the ulna, as when the pronation and fupination of the hand are made thereby. Both thefe bones of the cubitus are fo articulated with the lower head of the os humeri, that large protuberances are received into deep cavities or grooves, and the whole invefted, and faftened with exceeding ftrong ligaments; fo that, notwithftanding the cubitus may be luxated in all four directions, outward or inward, backward or forward, yet it is but feldom that it fuffers a perfect or entire diflocation, unlefs the upper part of the ulna be broken, or the ligaments of the cubitus much weakened by fome great external violence. The flighter and more recent luxations of this kind are, the more eafy is the reduction of them. Be the cafe better or worfe, however, the patient muft be placed in a chair, and both parts of the limb, the humerus and the cubitus, muft be extended in oppofite or contrary directions, by two ftrong affiftants, till the mufcles are found pretty tight, with a free fpace between the bones; then the luxated bone muft be replaced, either with the furgeon's hands alone, or with the affiftance of bandages, that the proceffes may fall into their finufes; and when that is done, the cubitus muft be fuddenly bent. But if the tendons and ligaments are fo violently ftrained, that they can fcarce perform their office, it will be proper to anoint them with emollient oils, ointments, and the fat of animals; or to apply emollient cataplafms and fomentations. As foon as the reduction has been effected, the articulation muft be bound up with a proper bandage, and the arm afterwards fufpended in a fling hung about the neck. But care muft be taken that the bandage is not kept on too long, nor the arm kept entirely without motion all the time, left the mucilage of the joint fhould become infpiffated, and the articulation rendered, by that means, ftiff, or the motion of the part be entirely loft. To prevent this, it will be proper to undo the bandage every other day, and gently to bend, and extend the limb; afterwards compreffes dipped in warm wine may be applied, and held on with the bandage.

CUBOIDES, or *Os* CUBOIDES, in anatomy, the feventh bone of the foot, fo called from its refembling a cube. It is fituated in the external fide of the tarfus, where it receives the outer bone of the metatarfus, and is articulated with the neighbouring bones.

CUBUS CUBI, the ninth power of any number or quantity. See POWER.

CUCKING-STOOL, antiently called tumbrel, an engine invented for the punifhment of fcolds, and unquiet women, by ducking them.

This inftrument was a fort of chair, in which the offender was faftened, and fo ducked: it was formerly made ufe of to punifh bakers, and brewers, upon tranfgreffing the laws made in relation to their feveral trades; for upon offending in this refpect, they were ducked, or plunged in fome ftinking, muddy pond, by means of this chair.

CUCKOW, in ornithology, the englifh name of a well known bird, called by zoologifts cuculus. See CUCULUS.

CUCKOW-FLOWER, in botany, a name fometimes given a plant, more generally called cardamine, or lady's fmock. See the article CARDAMINE.

CUCKOW-SPIT, the fame with froth-fpit. See the article FROTH-SPIT.

CUCKOW-SPIT-INSECT, a fpecies of cicada, fo called from its producing the fubftance cuckow-fpit. See CICADA.

CUCUBALUS, in botany, a genus of the decandria trigynia clafs of plants, whofe corolla confifts of five petals; the ungues of which are of the length of the cup, the limb plain, and the bracteæ bifid. The fruit is a fmall, roundifh, accuminated capfule; the feeds are numerous and roundifh. See plate LXI. fig. 2.

CUCULLARIA, in zoology, a fpecies of phalænæ, or moths, with fimple antennæ, a fpiral tongue, and the forehead a little prominent. See the article PHALÆNA.

CUCULLARIS, in anatomy, a mufcle of the fcapula, otherwife called trapezius: It arifes from the os occipitis, the fpinofe apophyfes of the neck, and of the

the feventh and eighth of the back. Its termination is at the fpine of the fcapula. It has the power of feveral very different motions: the different courfe of its feveral fibres enabling it, as they act differently, to move the fcapula upwards, downwards, or backwards.

CUCULUS, the CUCKOW, in ornithology, a genus of birds, of the order of the picæ the characters of which are thefe: the beak is fmooth; the noftrils are a little prominent; the tongue is entire, and fagittated; the toes are four in number, two before and two behind.

The common cuckow is a bird of confiderable beauty, which breeds with us, but does not remain all the year.

Its head, neck, and back are of a hoary colour, with fome dark grey feathers; the wings are of a brownifh black, the throat of an undulated flefh colour, and the belly whitifh. This is the colour of the female; from which the male differs in fome particulars. See plate LXIV. fig. 1.

The great fpotted cuckow is about the fize of a magpye, or jay, and is the moft elegant bird of its kind. See plate LXVI. fig. 1.

The crown of the head is covered with foft feathers, of a bluifh afh-colour, fomewhat refembling a creft; the upper part of the body is a dark brown; all the quill feathers of the wings are tipped with white, as are thofe of the tail.

CUCUMBER, *cucumis*, in botany, a genus of the monoecia-fyngenefia clafs of plants: the corolla is formed of a fingle companulated petal, and divided into five fegments; the calyx and corolla of the female flower, are the fame as thofe in the male: the fruit is flefhy like an apple, containing three cells; the feeds are numerous, compreffed, ovato-acute, and placed in a double row. See plate LIV. fig. 9.

Befides the ufe of cucumbers as a food, their feed is one of the four greater cold feeds of the fhops, and is almoft an univerfal ingredient in emulfions, and is found of great fervice in fevers and nephritic complaints.

Wild CUCUMBER, the fame with the elaterium, or momordica of botanical writers. See the article MOMORDICA.

CUCURBIT, in chemiftry, an earthen or glafs veffel, fo called from its refemblance to a gourd, arifing gradually from a wide bottom, and terminating in a narrow neck.

This inftrument is of great ufe in chemical diftillations, digeftions, and fublimations. The more the widenefs of the bottom, at its largeft part, furpaffes the narrownefs of the neck, and the narrower and longer the neck is, with the greater difficulty is the liquor in the cucurbit diftilled. Upon thefe circumftances depends the choice we ought to make of cucurbits.

Blind CUCURBIT is a fmall inverted cucurbit adapted to another, in fuch a manner, that the neck of the one is inferted in that of the other. The veffel called circulatory, is one of this kind.

CUCURBITA, the GOURD, in botany, a genus of the monoecia-fyngenefia clafs of plants; the corolla of which is formed of a fingle companulated petal, divided into five fegments. The fruit is apple-like, and contains three membranaceous cells: the feeds are numerous, compreffed, tumid, obtufe, and placed in two rows. See the article GOURD.

CUD, fometimes means the infide of the throat in beafts, and fometimes the food that they keep there, and chew over-again: from whence, *to chew the cud*, fignifies, to ponder, think, or ruminate upon a thing.

CUD LOST; cattle fometimes lofe the cud by chance, fometimes by ficknefs, poverty, mourning, &c. to cure which, take four laven of rye bread, and falt, and mixing it with human urine and barm, beat it in a mortar; then making a large ball or two thereof, put them down the beaft's throat.

CUDDY, in great fhips, a place lying between the captain-lieutenant's cabin, and the quarter-deck, under the poop. It is divided into partitions for the mafter and other officers.

CUDWEED, the englifh name of a genus of plants called by authors gnaphalium. See the article GNAPHALIUM.

CUE, among ftage-players, an item, or innuendo, given to the actors on the ftage, what, or when to fpeak.

CUENCA, a city, and bifhop's fee, of New Caftile, in Spain, about eighty-five miles eaft of Madrid: weft long. 2° 40′, and north lat. 40° 12′.

CUI *ante divortium*, a writ that a woman, divorced from her hufband, has to recover her lands and tenements, which, before her coverture, fhe held in fimple fee, in tail, or for life, from a perfon to whom the hufband had alienated them during the marriage, when it was not in her power to gainfay it.

CUI *in vita*, a writ of entry, which a widow

widow may have againſt him to whom her huſband in his life-time did alienate her lands or tenements, without her conſent firſt had, and lawfully joining therein.

CUIRASSE, a piece of defenſive armour, made of iron plate, well hammered, ſerving to cover the body, from the neck to the girdle, both before and behind: whence,

CUIRASSIERS, cavalry armed with cuiraſſes, as moſt of the germans are: the french have a regiment of cuiraſſiers: but we have had none in the engliſh army, ſince the revolution.

CUL *de lamp*, in architecture, a term uſed for ſeveral decorations, both of maſonry and joinery, found in vaults and ceilings, to finiſh the bottom of works; and wreathed ſomething in manner of a teſtudo, particularly, a kind of pendentive in gothic vaults.

CUL *de four*, a ſort of ſpherical vault, like an oven. See the article VAULT.

CUL *de four of a niche*, ſignifies the arched roof of a niche, on a circular plan.

CULDEES, in church-hiſtory, a ſort of monkiſh prieſts, formerly inhabiting Scotland and Ireland. Being remarkable for the religious exerciſes of preaching and praying, they were called, by way of eminence, *cultores Dei*; from whence is derived the word culdees. They made choice of one of their own fraternity to be their ſpiritual head, who was afterwards called, the Scots biſhop.

CULEUS, in roman antiquity, the largeſt meaſure of capacity for things liquid, containing twenty amphoræ, or forty urnæ. It contained one hundred forty-three gallons three pints, engliſh wine meaſure; and was 11,095 ſolid inches.

CULEX, in zoology, a genus of two-winged flies, the mouth of which is tubular, like a ſiphon, but exceeding ſlender, and filiform.

Under this genus are comprehended the gnats, and humble-bees. See the article GNAT, &c.

CULIACAN, the capital of a province of the ſame name in Mexico, oppoſite to the ſouthern end of California. Weſt longit. 113°, and north latit. 24°.

CULLIAGE, a barbarous and immoral practice, whereby the lords of manors antiently aſſumed a right to the firſt night of their vaſſals brides.

CULLEMBACK, or CULLEMBERG, a marquiſate in the north-eaſt part of the circle of Franconia, in Germany.

CULLEN, a parliament town in Scotland, ſituated on the ſea-coaſt of Bamfſhire, weſt long. 2° 12′, and north lat. 57° 38′.

CULM, among botaniſts, a term uſed to denote the ſtalk of graſſes, hence called culmiferous plants. See the next article.

CULMIFEROUS PLANTS, in botany, ſuch plants as have a ſmooth jointed ſtalk, uſually hollow, and at each joint, wrapped about with ſingle, narrow, ſharp-pointed leaves, and their ſeeds contained in chaffy huſks, as wheat, barley, &c.

CULMINATION, in aſtronomy, the paſſage of any heavenly body over the meridian, or its greateſt altitude for that day.

The culmination of any ſtar may be found by the globe. See GLOBE.

As in the horizon all ſtars firſt appear and diſappear, ſo, in the meridian circle, they all ariſe to their greateſt height: and likewiſe, they are at the greateſt depreſſion, below the horizon, when they arrive at the ſame meridian. Now, ſince the meridian makes right angles, both with the equator and the horizon, it will divide the ſegments of the equator, and all its parallels, as well thoſe that lye above the horizon, as thoſe which are below it, into equal portions, and therefore the time between the riſing of a ſtar, and its culmination, or arrival at the meridian, will be equal to the time between this culmination and its ſetting.

The *medium cœli*, or mid heaven, is that part of the ecliptic which culminates.

CULMORE, a town of Ireland, in the county of Londonderry, and province of Ulſter, about five miles north of Londonderry: weſt long. 7° 40′, and north lat. 55°.

CULMUS, the culm of plants. See the article CULM.

CULPABLE, *Culpabilis.* See the article NON EST CULPABILIS.

CULPRIT, a formal reply of a proper officer in court, in behalf of the king, after a criminal has pleaded not guilty, affirming him to be guilty, without which the iſſue to be tried is not joined. After an indictment, for any criminal matter, is read in court, the priſoner at the bar is aſked whether he is guilty, or not guilty, of the indictment? if he anſwers, not guilty, there is a replication by the clerk of the arraignments from the crown, by continuing

the charge of the guilt upon him, which is expreffed in the word culprit.

The term culprit is a contraction of the latin *culpabilis*, and the old French word *prit*, now *pret*, importing that he is ready to prove the criminal guilty.

CULROSS, a parliament-town of Scotland, fituated on the river Forth, about twenty-three miles north-weft of Edinburgh: weft long. 3° 34′, and north lat. 56° 8′.

CULTURE *of lands*. See AGRICULTURE.

CULTURE *of hops, wheat, barley*, &c. See the articles HOP, WHEAT, BARLEY, SOWING, PLANTING, *&c.*

CULVERIN, in the military art, a large cannon, or piece of artillery, for the kinds, weight, and proportions of which, fee the article CANNON.

CULVERTAILED, among fhip-wrights, fignifies the faftening, or letting, of one timber into another, fo that they cannot flip out, as the carlings into the beams of a fhip. See CARLINGS.

CUMBERLAND, one of the moft northerly counties of England, feparated from Scotland by the frith and river of Solway. It gives the title of duke to his royal highnefs William duke of Cumberland, *&c.*

CUMMIN, *Cuminum*, a genus of the pentandria-digynia clafs of plants, the general corolla of which is uniform: the fingle flowers confift each of five inflexo-emarginated, and fomewhat unequal petals: there is no pericarpium: the fruit is of an oval figure, and ftriated: the feeds are two, of an oval figure, convex and ftriated on one fide, fmooth and plain on the other.

Cumin feed is a good carminative, and ftomachic; and is given with good fuccefs in cholics, vertigoes, and other difeafes of the head.

It is alfo fuccefsfully ufed externally in cataplafms and fomentations, wherever a warm difcutient is required. Its effential oil is one of the beft carminatives in the fhops; its dofe being two or three drops on fugar. See ANISE.

CUNEIFORM, in general, an appellation given to whatever refembles a wedge.

CUNEIFORM-BONE, in anatomy, the feventh bone of the cranium, called alfo os bafilare, and os fphenoides. See the article SPHENOIDES.

CUNEIFORM BONES, or OSSA CUNEIFORMIA, are alfo three bones of the foot, all different in their fizes, and articulated with the os naviculare, and with the three bones of the metatarfus, *viz.* thofe which fupport the great toe, the fecond, and the third. See METATARSUS, and NAVICULARE.

CUNETTE, or CUVETTE, in fortification, a deep trench, about three or four fathoms wide, funk along the middle of a dry moat, to make the paffage more difficult to the enemy.

CUNEUS, the wedge, in mechanics. See the article WEDGE.

CUNEUS, in antiquity, a company of infantry, drawn up in form of a wedge, the better to break through the enemy's ranks.

This was alfo the name of a feries of benches in the theatre at Athens, narrower near the ftage, and broader behind, in refemblance of a wedge.

CUNEUS, in natural hiftory, a kind of foffile mufcle-fhells, with one fide much longer than the other, and found in vaft numbers in many parts of the kingdom.

Parabolic CUNEUS, in geometry. See the article PARABOLIC.

CUNICULUS, the RABBIT, in zoology, a well known animal of the lepus, or hare-kind, with an abrupt tail, and red eyes. See HARE and RABBIT.

CUNILA, in botany, a genus of the didynamia-gymnofpermia clafs of plants, whofe flower confifts of a fingle ringent petal; the tube is fhorter than the cup; the upper lip is erect, fornicated and emarginated; the lower lip is very flightly divided into three parts: there is no pericarpium, the fruit being fhut up in the inner neck of the cup; there are four ovated feeds.

CUNNINGHAM, one of the four bailiwicks of Scotland, and one of the three into which the fhire of Aire is fubdivided. It lies north-eaft of Kyle. Its chief town is Irwin. See the article AIRE.

CUNNUS, in anatomy, denotes the female pudendum. See PUDENDUM.

CUP, a veffel of capacity of various forms, and materials, chiefly ufed to drink out of.

CUP, among botanifts, the fame with calyx. See the article CALYX.

CUPANIA, in botany, a genus of the pentandria-monogynia clafs of plants, the corolla of which confifts of five roundifh, patent petals, lefs than the cup: the fruit is a coriaceous capfule, of a turbinated oval figure, formed of three valves, and containing only one cell; the feeds are fix in number, and roundifh; each has a proper receptacle of

Fig. 1. CROWS.

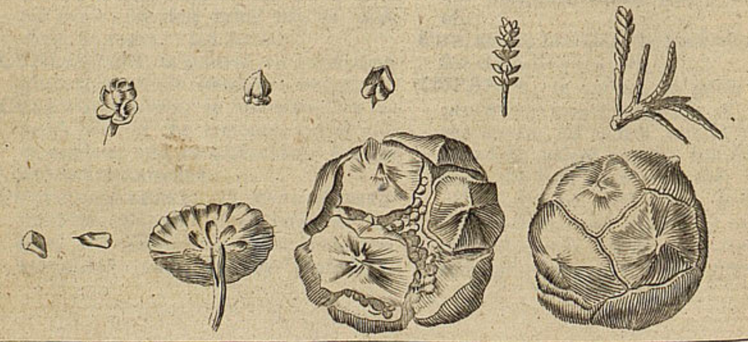
A

B

Fig. 2. CUCUBALUS.



Fig. 3. CUPRESSUS, the *CYPRESS-TREE*.



T. Jefferys sculp.

of a companulated figure, and crenated, furrounding it.

CUPOLA, in architecture, a fpherical vault; or the round top of the dome of a church, in form of a cup inverted. See the article DOME.

CUPPEL, or COPPEL, in chemiftry. See the article COPPEL.

CUPPING, in furgery, the operation of applying cupping glaffes for the difcharge of blood, and other humours, by the fkin.

The operation of cupping is not confined to any particular member of the body; but wherever the cupping glafs is applied, it is fixed upon the fkin, either intire or fcarified, and hence we have a twofold diftinction of cupping, into dry and gorey.

In dry cupping, the glafs adheres to the fkin, by expelling or rarefying its included air, by lighted flax, or the flame of a burning candle within it, fo that the glafs is preffed upon the part with a confiderable force, by the external air. The ufe of this dry cupping is twofold, either to make a revulfion of the blood, from fome particular parts affected, or elfe to caufe a derivation of it into the affected part, upon which the glafs is applied: hence we have a reafon why Hippocrates orders a large cupping-glafs to be applied under the breafts of a woman who has too profufe a difcharge of her menfes, intending thereby to make a revulfion of the blood upwards from the uterus. Dry cupping is alfo ufed, with fuccefs, to make a revulfion, by applying the glaffes to the temples, behind the ears, or to the neck and fhoulders, for the removal of pains, vertigoes, and other diforders of the head: they are applied to the upper and lower limbs, to derive blood and fpirits into them, when they are paralytic; and, laftly, to remove the fciatica, and other pains of the joints. The operation in thefe cafes is to be repeated upon the part, till it looks very red, and becomes painful.

In Germany, and other northern countries, cupping is much oftener joined with fcarification, than ufed alone; in which cafe the part is firft to be cupped, till it fwells and looks red, and the fkin is to be punctured, or incifed, by the fcarifying inftrument.

As feveral glaffes, fometimes fix or eight, are often applied at once, the operator muft manage his bufinefs fo, that fome glaffes may be filling, while he is fcarifying, and adapting the others. When the blood ceafes to flow faft enough, he muft repeat his incifions, clofe by the former, and re-apply the cupping-glaffes. The operation being finifhed, and the fkin well cleanfed with a fponge, and warm water, it is next to be rubbed over with a bit of deer's fuet, to promote the healing: but if the blood ftill continues to flow, the fkin is to be wafhed with fpirit of wine and hungary water, binding it up with a comprefs and bandage.

The cupping-glafs and inftrument are reprefented in plate LXIV. fig. 2.

This inftrument confifts of a brafs-box, on one of whofe fides are a number of lancets, moveable by a fpring within the box. When this fide is applied to the fkin, the fpring is to be raifed by the handle A; and on depreffing the button B, it caufes the lancets to pierce the fkin all at once.

Nux CUPRESSI. See the article NUX.

CUPRESSUS, the CYPRESS-TREE, a genus of the monoecia-monadelphia clafs of plants, having no corolla; the calyx of the male flower is a fquama of an amentum; the antheræ, being four in number, are feffile, and have no filaments: In the female flower, the calyx contains two, and is a fquama of a ftrobilus: It has no corolla, there are hollowed points in the place of ftyles: there is no pericarpium: the fruit is a fubglobofe cone, fhut up, opening with roundifh and pointed fquamas; under which is contained the feed, being an angular, acuminated, fmall nut. See plate LXI. fig. 3.

CUR, or CYRUS, a river of Afia, which taking its rife in mount Caucafus, and running fouth through Georgia, and the province of Chervan, in Perfia, unites with the river Arras, or Araxes, and continues its courfe eaftward to the Cafpian Sea.

CURASSOW, or CURACAO, one of the lefferAntille-Iflands, fubject totheDutch, and fituated in 68° 30′, weft long. and 12° 30′, north lat.

CURATE, properly fignifies the parfon, or vicar of a parifh, who has the charge, or cure, of the parifhioners fouls. See the article CURE.

CURATE, alfo fignifies a perfon fubftituted by the incumbent, to ferve his cure in his ftead. A cure is to be licenfed or admitted by the bifhop of the diocefe, or ordinary, having epifcopal jurifdiction. By the ftatute, curates, licenfed

licenfed by the bifhop, are to be appointed by him a ftipend not exceeding 50 l. *per annum*, nor lefs than 20 l.

CURATOR, among civilians, a perfon regularly appointed to manage the affairs of minors, or perfons mad, deaf, dumb, *&c.* In countries, where the civil law prevails, minors have tutors affigned them, till they are of the age of fourteen, between which and twenty-five, they have curators appointed them. There are alfo curators for the eftate of debtors, and of perfons dying without heirs.

CURATOR *of an univerfity*, in the united Netherlands, an officer that has the direction of the affairs of the univerfity, fuch as the fuperintendence of the profeffors, the management of the revenues, *&c.* thefe officers, being elective, are chofen by the ftates of each province. Leyden has three curators.

CURB, in the manege, a chain of iron, made faft to the upper part of the branches of the bridle, in a hole, called the eye, and running over the horfe's beard. It confifts of thefe three parts, the hook fixed to the eye of the branch; the chain of SS's, or links; and the two rings or mailes. Large curbs, provided they be round, are always moft gentle: but care is to be taken, that it reft in its proper place, a little above the beard, otherwife the bitmouth will not have the effect that may be expected from it. Englifh watering bits have no curbs; the turkifh bits called genettes, have a ring that ferves inftead of a curb.

To give a leap upon the CURB, is, to fhorten the curb, by laying one of the mailes, or SS like joints of the chain over the reft.

CURB is alfo a hard and callous fwelling, that runs along the infide of a horfe's hoof, in the great finew behind, above the top of the horn, which makes him halt, and go lame, when he has been heated. It is to be cured by the like applications as are prefcribed in the fpavin. See the article SPAVIN.

CURCULIO, in zoology, a genus of beetles, diftinguifhed from the other kinds, by having the antennæ affixed to a long horny roftrum, or fnout: of thefe there are feveral fpecies enumerated by authors.

CURCUMA, TURMERIC, in botany, a genus of the monandria monogynia clafs of plants, the tube of whofe corolla, being monopetalous, is narrow; its limb is divided into three fegments, which are of a lanceolated figure, and patent; the nectarium is compofed of a fingle leaf, of an ovated, but pointed figure; it is larger than the fegments of the petal, and is inferted into the larger finus made by its opening: the fruit is a roundifh capfule, compofed of three valves, and containing three cells, in each of which there are a great number of feeds. See the article TURMERIC.

CURDISTAN, a province of Perfia, having Turcomania, or Armenia, on the north, and Eyraca Arabic, or Chaldea, on the fouth.

CURDLING, the coagulating any fluid body, efpecially milk.

It is faid that, at Florence, they curdle their milk, for the making of cheefe, with artichoke flowers, inftead of the rennet ufed among us, for that purpofe. The milk of women newly delivered is apt to curdle in their breafts, which occafions violent pains. It arifes from the want of being fucked, whence the cure and prevention of this diforder is eafily effected.

CURE *of fouls*, a benefice in the chriftian church, the incumbent whereof has the direction of confciences within a parifh. This right is by the canonifts called a cure *in foro interiore tantum*, to diftinguifh it from a cure *in foro exteriore*, fuch as arch-deacons, *&c.* have.

CURETES, in antiquity, a fort of priefts called alfo corybantes, being, as fome relate, the fame with what the druids and bards were afterwards among the Gauls. They are faid to have been originally of Mount Ida in Phrygia; and to have been ufed to dance, at the noife of tabors and caftanetta's.

CURFEW, or COURFEW, a fignal given in cities, taken in war, *&c.* to the inhabitants to go to bed. Pafquin fays, it was fo called, as being intended to advertife the people, to fecure themfelves from the robberies and debaucheries of the night.

The moft eminent curfew in England was that eftablifhed by William the conqueror, who appointed, under fevere penalties, that, at the ringing of a bell, at eight o'clock in the evening, every one fhould put out their lights and fires, and go to bed: whence to this day, a bell, rung about that time, is called a curfew-bell.

CURIA, in roman antiquity, a certain divifion, or portion of a tribe. Romulus divided the people into thirty curiæ, or

or wards, whereof there were ten in every tribe, that each might keep the ceremonies of their feaſts and ſacrifices in the temple, or holy place, appointed for every curia. The prieſt of the curia was called curio. See the article CURIO.

CURIA, in the engliſh law, generally ſignifies a court; and has been taken for the cuſtomary tenants, who do their ſuit and ſervice at the court of the Lord. See the article COURT.

CURIA *aquæ curſus*, a court held by the lord of the manor of Graveſend, for the better management of barges and boats that uſe the paſſage on the Thames, between that place and London, *&c.*

CURIA CLAUDENDA, a writ that lies, to compel a man to make a fence, or wall, between his lands and that of the plaintiff.

CURIA DOMINI, ſignifies the Lord's houſe, hall, or court, where all the tenants attend at the time of holding courts.

CURIA PENTICIARUM, a court held by the ſheriff of Cheſter in a place there, called the Pendice, or Pentice.

CURIASS, or CURIASSE. See the article CURIASSE.

CURING, a term uſed for the preſerving fiſh, fleſh, and other animal ſubſtances, by means of certain additions of things, to prevent putrefaction. One great method of doing this, is by ſmoking the bodies with the ſmoke of wood, or rubbing them with ſalt, nitre, *&c.*

CURIO, in roman antiquity, the chief and prieſt of each curia, or ward, whoſe buſineſs was to officiate at the ſacrifices of the curia, called curionia, and provide for them, the curia furniſhing him with a ſum of money on that conſideration. See the article CURIA.

CURLED LEAF, the ſame with criſp leaf. See plate LXIV. fig. 3. and the article CRISP.

CURLEW, in ornithology, the engliſh name of the numenius, with an arcuated beak, and black wings with white ſpots. See the article NUMENIUS.

CURRANS, or CURRANTS, the fruit of a ſpecies of groſſularia. See the article GROSSULARIA.

The white and red ſort are moſtly uſed, for the black, and chiefly the leaves, upon firſt coming out, are in uſe to flavour engliſh ſpirits, and counterfeit french brandy. Currans greatly aſſwage drought, cool and fortify the ſtomach, and help digeſtion.

CURRANTS alſo ſignify a ſmaller kind of grapes brought principally from Zant and Cephalonia. They are gathered off the bunches, and laid to dry in the ſun, and ſo put up in large butts. They are opening and pectoral, but are more uſed in the kitchen, than in medicine.

Currants the hundred weight pay on importation 1 l. 2 s. $1\frac{35}{100}$d. and draw back on exportation 1 l. 0 s. $7\frac{35}{100}$d.

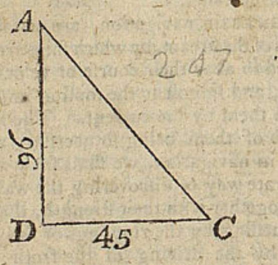
If imported in venetian ſhips, they pay the 112 lb. 1l. 3s. $7\frac{35}{100}$d. and draw back 1l. 1s. $8\frac{85}{100}$d. In other foreign bottoms they pay 1l. 7s. $4\frac{95}{100}$d. and draw back 1l. 5s. $6\frac{45}{100}$d.

CURRENT, in hydrography, a ſtream or flux of water in any direction. In the ſea, they are either natural, occaſioned by the diurnal motion of the earth round its axis, or accidental cauſed by the water's being driven againſt promontories, or into gulphs and ſtreights, where wanting room to ſpread they are driven back, and thus diſturb the ordinary flux of the ſea. Dr. Halley makes it highly probable that in the Downs, there are under currents, by which as much water is carried out as is brought in by the upper currents.

CURRENTS in navigation, are certain ſettings of the ſtream, by which ſhips are compelled to alter their courſe or velocity, or both, and ſubmit to the motion impreſſed upon them by the current. The knowledge of them being ſo neceſſary an article in navigation, we ſhall ſhew a more accurate way of diſcovering the way they ſet, together with their ſtrength, than that of gueſſing by the ripplings of the water, and by the driving of the froth along ſhore. Take your ſhip's boat, with three or four men, a compaſs, a log line with a large log to it, and a kettle or iron pot with a quoil or two of inch rope faſtened to its bale. When at a proper diſtance from the ſhip, heave your kettle overboard, and let it ſink eighty or a hundred fathom, which will ride the boat nearly as faſt as if at anchor. Heave your log, and turn your half minute glaſs, obſerving at the ſame time, to ſet the drift of the log by the compaſs, then will the knots run out during the half minute, give the current's ſtrength, and the compaſs its ſetting. Now to know how to make proper allowances for currents, it is evident, if a current ſets juſt with the courſe of the ſhip, then the motion of the ſhip is increaſed by as much as is the drift or velocity of the current.

current. And if a current fets directly againft the fhip's courfe, then the motion is retarded in proportion to the velocity of the current. Hence it is plain, 1. If the velocity of the current be lefs than that of the fhip, then the fhip will get fo much a head, as is the difference of thefe velocities. 2. If the velocity of the fhip, then the fhip will fall fo much aftern as is the difference of thefe velocities. 3. If the velocity of the current be equal to that of the fhip, then the fhip will ftand ftill, the one velocity deftroying the other.

If the current thwarts the courfe of a fhip, then it not only leffens or augments her velocity, but gives her a new direction compounded of the courfe fhe fteers, and the fetting of the current. Suppofe a fhip fails by the compafs directly fouth, 96 miles in 24 hours, in a current that fets eaft 45 miles in the fame time. Required the fhip's true courfe and diftance. To folve the problem, geometrically, draw AD to reprefent the fouth and north line of the fhip at A equal to 96: from D draw DC perpendicular to AD equal to 45, and join AC.



Then C will be the fhip's true place, AC her true diftance, and the angle CAD the true courfe. To find which, trigonometrically fay, As AD the apparent diftance is to DC, the current's motion, fo is the radius to the tangent of the true courfe DAC. Confequently the fhip's true courfe in the prefent cafe will be found S. S. E. 2° 37′ eafterly. Then for the true diftance AC, it will be as the fine of the courfe A : is to the departure DC : : radius : to the true diftance AC = 106 miles.

Again, fuppofe a fhip fails fouth eaft 120 miles in 20 hours, in a current that fets weft by north, at the rate of two miles an hour; required the fhip's true courfe and diftance failed in that time. To folve this geometrically. Having drawn the compafs, N. E. S. W. (plate LXII. fig. 6.) let C reprefent the place the fhip failed from, draw the fouth eaft line C A, which make equal to 120, then will A be the place the fhip caped at. From A draw A B parallel to the W. by N. line, C D, and equal to 40, the motion of the current in 20 hours, and join C B; then B will be the fhip's true place at the end of twenty hours, C B her true diftance, and the angle S C B her true courfe. To folve it trigonometrically. In the triangle A B C are given C A 120, A B 40, and the angle C A B equal to 34° 45′, the diftance between the E. by S. and S. E. lines; whence the angles B and C will be found by cafe 4th of oblique trigonometry, thus B = 131° 52′, and the angle A C B = 14° 23′. Hence the true courfe is S. S. E. 2° 7′ eafterly. Then for the true diftance C B, it will be found, by cafe 2d of oblique trigonometry equal to 89,53 miles. See the articles TRIANGLE, TRIGONOMETRY, COMPASS, &c.

CURRIERS, thofe who drefs and colour leather after it comes from the tan-yard. Perfons in London putting leather to be curried to any but freemen of the curriers company, and fuch curriers not currying the leather fufficiently, fhall forfeit the wares or the value of them. And by 12 George II. cap. xxv. Curriers are to curry leather fent to them, in fixteen days between Michaelmas and Lady-day, and in eight days the reft of the year, or fhall forfeit 5l. on conviction before a juftice of peace.

CURRYING, the method of preparing leather with oil, tallow, &c.

The chief bufinefs is to foften and fouple cows and calves fkins, which make the upper leathers and quarters of fhoes, coverings of faddles, coaches, and other things which muft keep out water. 1. Thefe fkins, after coming from the tanner's yard, having many flefhy fibres on them, the currier foaks them fome time in common water. 2. He takes them out and ftretches them on a very even wooden horfe; then with a paring knife, he fcrapes off all the fuperfluous flefh, and puts them in to foak again. 3. He puts them wet on a hurdle, and tramples them with his heels, till they begin to grow foft and pliant. 4. He foaks them in train oil, which, by its unctuous quality, is the beft liquor for this purpofe. 5. He fpreads them on large tables, and faftens them at the ends. There with the help of an inftrument

ſtrument called a pummel, which is a thick piece of wood, the under ſide whereof is full of furrows croſſing each other, he folds, ſqueezes, and moves them forwards and backwards ſeveral times, under the teeth of this inſtrument, which breaks their too great ſtiffneſs. This is what is properly called currying. The order and number of theſe operations is varied by different curriers, but the material part is always the ſame. 6. After the ſkins are curried, there may be occaſion to colour them. The colours are black, white, red, yellow, green: the other colours are given by the ſkinners, who differ from curriers in this, that they apply their colours on the fleſh ſide; the curriers on the hair ſide. In order to whiten ſkins, they are rubbed with lumps of chalk, or white lead, and afterwards with pumice-ſtone. 7. When a ſkin is to be made black, after having oiled and dried it, he paſſes over it a puff dipt in water impregnated with iron, and after this firſt wetting, he gives it another in a water prepared with ſoot, vinegar, and gum arabic. Theſe different dyes gradually turn the ſkin black, and the operations are repeated till it be of a ſhining black. The grain and wrinkles which contribute to the ſoupleneſs of calves and cows leather, are made by the reiterated folds given to the ſkin in every direction, and by the care taken to ſcrape off all hard parts on the coloured ſide.

CURSITOR, a clerk belonging to the court of chancery, whoſe buſineſs it is to make out original writs. In the ſtatute 18 Edw. III. they are called clerks of courſe, and are twenty-four in number, making a corporation of themſelves. To each of them is allowed a diviſion of certain counties, into which they iſſue out the original writs required by the ſubject.

CURSOR, in mathematical inſtruments, is any ſmall piece that ſlides, as the piece in an equinoctial ring-dial that ſlides to the day of the month; the little label of braſs divided like a line of ſines, and ſliding in a groove along the middle of another label, repreſenting the horizon in the analemma; and likewiſe a braſs point ſcrewed on the beam-compaſſes, which may be moved along the beam for the ſtriking of greater or leſs circles. See the articles Analemma, *Beam* Compasses, *&c.*

CURTAILING, in farriery, is the docking or cutting off a horſe's tail. This practice is no where ſo much uſed as in England, it being a popular opinion, that the taking away the tail, makes the horſe's chine or back much ſtronger, and more able to ſupport a burden.

CURTATE distance, in aſtronomy, the diſtance of a planet from the ſun to that point where a perpendicular let fall from the planet meets with the ecliptic.

CURTATION, in aſtronomy, is the interval between a planet's diſtance from the ſun, and the curtate diſtance.

CURTESY, or Courtesy. See the article Courtesy.

CURTEYN, *curtana*, in the britiſh cuſtoms, king Edward the confeſſor's ſword, borne before the prince at coronations: its point is ſaid to be broken off, as an emblem of mercy.

CURTIN, Curtain, or Courtin, in fortification, is that part of the rampart of a place which is betwixt the flanks of two baſtions bordered with a parapet five feet high, behind which the ſoldiers ſtand to fire upon the covered way, and into the moat. As it is the beſt defended of any part of the rampart, beſiegers never carry on their attacks againſt the curtin, but againſt the faces of the baſtions, becauſe of their being defended only by one flank.

Angle of the Curtin, that contained between the curtin and the flank.

Complement of the Curtin. See the article Complement.

CURVATOR coccygis, in anatomy, a name given by Albinus to a muſcle of the coccyx, diſcovered by himſelf, and not deſcribed by any other author.

It ariſes with a double head, one from the inner and the other from the lower and lateral part of the os ſacrum; and deſcending, terminates in three extremities. He gave the name from its office, which is the bending the coccyx.

CURVATURE *of a line*, is the peculiar manner of its bending or flexure by which it becomes a curve of ſuch and ſuch peculiar properties.

Any two arches of curve lines touch each other when the ſame right line is the tangent of both at the ſame point; but when they are applied upon each other in this manner, they never perfectly coincide, unleſs they are ſimilar arches of equal and ſimilar figures: and the curvature of lines admit of indefinite variety. Becauſe the curvature is uniform in a given circle, and may be varied at pleaſure in them, by enlarging or diminiſhing their dia-

diameters: the curvature of circles serves for measuring that of other lines.

Of all the circles that touch a curve in any given point, that is said to have the same curvature with it, which touches it so closely, that no circle can be drawn through the point of contact between them. And this circle is called the circle of curvature; its center, the center of curvature; and its semidiameter, the ray of curvature belonging to the point of contact. As in all figures, rectilinear ones excepted, the position of the tangent is continually varying; so the curvature is continually varying in all curvilinear figures, the circle only excepted. As the curve is separated from its tangent by its curvature, so it is separated from the circle of curvature in consequence of the increase or decrease of its curvature: and as its curvature is greater or less, according as it is more or less inflected from the tangent, so the variation of curvature is greater or less, according as it is more or less separated from the circle of curvature.

When any two curve lines touch each other in such a manner that no circle can pass between them, they must have the same curvature; for the circle that touches the one so closely that no circle can pass between them, must touch the other in the same manner. And it can be made appear, that circles may touch curve lines in this manner; that there may be indefinite degrees of more or less intimate contact between the curve and the circle of curvature; and that a conic section may be described that shall have the same curvature with a given line at a given point, and the same variation of a curvature, or a contact of the same kind with the circle of curvature. The rays of curvature of similar arches, in similar figures, are in the same ratio as any homologous lines of these figures, and the variation of curvature is the same. See the article CURVE.

CURVE, in geometry, a line which running on continually in all directions, may be cut by one right line in more points than one.

Curves are divided into algebraical or geometrical and transcendental.

Geometrical or algebraical curves are those whose ordinates and abscisses being right lines, the nature thereof can be expressed by a finite equation having those ordinates and abscisses in it.

Transcendental curve, is such as when expressed by an equation, one of the terms thereof is a variable quantity. See the article TRANSCENDENTAL.

Geometrical lines or curves are divided into orders, according to the number of dimensions of the equation expressing the relation between the ordinates and abscisses, or according to the number of points, by which they may be cut by a right line. So that a line of the first order, will be only a right line expressed by the equation $y + ax + b = 0$. A line of the second or quadratic order, will be the conic sections and circle whose most general equation is $y^2 + \overline{ax+b} \times y + cx^2 + dx + e = 0$. A line of the third order, is that whose equation has three dimensions, or may be cut by a right line in three points, whose most general equation is $y^3 + \overline{ax+b} \times y^2 + \overline{cx^2+dx+e} \times y + fx^3 + gx^2 + hx + k = 0$. A line of the fourth order, is that whose equation has four dimensions, or which may be cut in four points by a right line, whose most general equation is $y^4 + \overline{ax+b} \times y^3 + \overline{cx^2+dx+e} \times y^2 + \overline{fx^3+gx^2+hx+k} \times y + lx^4 mx^3 + nx^2 + px + q = 0$. And so on.

And a curve of the first kind (for a right line is not to be reckoned among curves) is the same with a line of the second order; and a curve of the second order, the same as a line of the third; and a line of an infinite order, is that which a right line can cut in an infinite number of points, such as a spiral, quadratrix, cycloid, the figures of the sines, tangents, secants, and every line which is generated by the infinite revolutions of a circle or wheel.

For the various curves of the first order and their properties, see the articles CONIC-SECTIONS, PARABOLA, HYPERBOLA, ELLIPSIS, &c.

As to the curves of the second order, Sir Isaac Newton observes they have parts and properties similar to those of the first: thus as the conic-sections have diameters and axes, the lines cut by these are called ordinates, and the intersection of the curve and diameter, the vertex; so in curves of the second order, any two parallel lines being drawn so as to meet the curve in three points, a right line cutting these parallels so as that the sum of the two parts between the secant and the curve on one side, is equal to the third part terminated by the curve on the other side, will cut in the same manner all other

other right lines parallel to these, and meet the curve in three parts, so as that the sum of the two parts on one side will be still equal to the third part on the other side.

These three parts, therefore, thus equal, may be called ordinates or applicates: the secant may be stiled the diameter; the intersection of the diameter and the curve, the vertex; and the point of concourse of any two diameters, the center. And if the diameter be normal to the ordinates, it may be called axis; and that point where all the diameters terminate, the general center. Again, as an hyperbola of the first order has two assymptotes; that of the second, three; that of the third, four, *&c.* and as the parts of any right line lying between the conic hyperbola and its two assymptotes are every where equal, so in the hyperbola of the second order, if any right line be drawn cutting both the curve and its three assymptotes in three points, the sum of the two parts of that right line being drawn the same way from any two assymptotes to two points of the curve, will be equal to a third part drawn a contrary way from the third assymptote to a third point of the curve. Again, as in conic-sections not parabolical, the square of the ordinate, that is the rectangle under the ordinates drawn to contrary sides of the diameter, is to the rectangle of the parts of the diameter which are terminated at the vertices of the ellipsis or hyperbola, as the latus rectum is to the latus transversum; so in non-parabolic curves of the second order, a parallelopiped under the three ordinates is to a parallelopiped under the parts of the diameter, terminated at the ordinates, and the three vertices of the figure, in a certain given ratio: in which ratio, if you take three right lines situated at the three parts of the diameter between the vertices of the figure, one answering to another, then these three right lines may be called the latera recta of the figure, and the parts of the diameter between the vertices, the latera transversa. And as in the conic parabola, having to one and the same diameter but one only vertex, the rectangle under the ordinates is equal to that under the part of the diameter cut off between the ordinates and the vertex, and the latus rectum; so in curves of the second order, which have but two vertices to the same diameter, the parallelopiped under three ordinates, is equal to the parallelopiped under the two parts of the diameter, cut off between the ordinates and those two vertices and a given right line, which therefore may be called the latus rectum. Moreover, as in the conic-sections, when two parallels terminated on each side of the curve, are cut by two other parallels terminated on each by the curve, the first by the third, and the second by the fourth; as here the rectangle under the parts of the first, is to the rectangle under the parts of the third; as the rectangle under the parts of the second, is to that under the parts of the fourth; so when four such right lines occur in a curve of the second kind, each in three points, then shall the parallelopiped under the parts of the first right line, be to that under the parts of the third; as the parallelopiped under the parts of the second line, to that under the parts of the fourth. Lastly, the legs of curves, both of the first, second, and higher kinds, are either of the parabolic or hyperbolic kind: an hyperbolic leg being that which approaches infinitely towards some assymptote; a parabolic, that which has no assymptote. These legs are best distinguished by their tangents; for if the point of contact go off to an infinite distance, the tangent of the hyperbolic leg will coincide with the assymptote; and that of the parabolic leg recede infinitely and vanish. The assymptote, therefore, of any leg, is found by seeking the tangent of that leg to a point infinitely distant; and the bearing of an infinite leg, is found by seeking the position of a right line parallel to the tangent, when the point of contact is infinitely remote: for this line tends the same way towards which the infinite leg is directed. For the other properties of curves of the second order, we refer the reader to Mr. Maclaurin's treatise de linearum geometricarum proprietatibus generalibus.

Sir Isaac Newton reduces all curves of the second order to the four following particular equations, still expressing them all. In the first, the relation between the ordinate and the abscisse, making the abscisse x and the ordinate y, assumes this form $xy^2 + ey = ax^3 + bx^2 + cx + d$. In the second case, the equation takes this form $xy = ax^3 + bx^2 + cx + d$. In the third case, the equation is $y^2 = ax^3 + bx^2 + cx + d$. And in the fourth case, the equation is of this form $y = ax^3 + bx^2 + cx + d$. Under these four cases,

 the

the ſame author enumerates ſeventy-two different forms of curves, to which he gives different names, as ambigenal, cuſpidated, nodated, &c. See AMBIGENAL, CUSPIDATED, NODATED.

Of theſe ſeventy-two curves, nine are redundant hyperbolas without diameters, having three aſſymptotes including a triangle; twelve are redundant hyperbolas with only one diameter; two are redundant hyperbolas with three diameters; nine are redundant hyperbolas with three aſſymptotes, converging to a common point; ſix are deficient hyperbolas having no diameters; ſeven are defective hyperbolas having a diameter; ſeven are parabolic hyperbolas having no diameter; four are parabolic hyperbolas which have a diameter; four are hyperboliſms of the hyperbola; three are hyperboliſms of the ellipſe; two are hyperboliſms of the parabola; one a trident; five are diverging parabolas; and one a cubical parabola.

Beſides theſe, Mr. Stirling found out four more ſpecies of redundant hyperbolas, and Mr. Stone two more of the deficient hyperbolas.

Geneſis of CURVES *of the ſecond order by ſhadows.* If (ſays Sir Iſaac Newton) upon an infinite plane illuminated from a lucid point the ſhadows of figures be projected, the ſhadows of the conic ſections will be always conic ſections; thoſe of the curves of the ſecond kind, will be always curves of the ſecond kind; thoſe of the curves of the third kind, will be always curves of the third kind, and ſo on *in infinitum.* And as a circle by projecting its ſhadow generates all the conic ſections, ſo the five diverging parabolas by their ſhadows, will generate and exhibit all the reſt of the curves of the ſecond kind: and ſo ſome of the moſt ſimple curves of the other kinds may be found which will form by their ſhadows upon a plane, projected from a lucid point, all the reſt of the curves of that ſame kind.

CURVES *of the ſecond order having double points.* As curves of the ſecond order may be cut by a right line in three points; and as two of theſe points are ſometimes coincident, theſe coincident interſections, whether at a finite or an infinite diſtance, are called the double point. And ſuch curves as have this double point, may be deſcribed by the following theorems, 1. If two angles P A D, P B D (plate LXII. fig. 7.) whoſe magnitude is given, revolve round the poles A and B given alſo in poſition, and their legs A P, B P with their point of concourſe P paſs over another right line: the other two legs A D, B D with their point of concourſe D, will deſcribe a conic ſection paſſing through the poles A, B, except where that line happens to paſs through either of the poles A or B, or when the angles B A D, A B D vaniſh together, in which caſes the point will deſcribe a right line. 2. If the legs A P, B P by their point of concourſe P deſcribe a conic ſection paſſing through one of the poles A; the other two A D, B D, with their point of concourſe D, will deſcribe a curve of the ſecond kind paſſing through the other pole B, and having a double point in the firſt pole A, unleſs the angles B A D, A B D vaniſh together; in which caſe the point D will deſcribe another conic ſection paſſing through the pole A. 3. But if the conic ſection, deſcribed by the point P, paſs through neither of the poles A, B, the point D will deſcribe a curve of the ſecond or third kind, having a double point: which double point will be found in the concourſe of the deſcribing legs A D, B D, when the two angles B A P, A B P vaniſh together. And the curve deſcribed will be of the ſecond kind when the angles B A D, A B D vaniſh together; otherwiſe it will be of the third kind, having two other double points in the poles A and B. See Mr. Maclaurin's Organica Geometria.

The general equation of all curves of the third kind, may be reduced to the following ten particular equations.

$$\left.\begin{array}{l}
1.\ y^4+fx^2y^2+gxy^3+hx^2y+iy^2+kxy+ly \\
2.\ y^4+fxy^3+gx^2y+hxy^2+ixy+ky \\
3.\ x^2y^2+fy^3+gx^2y+hy^3+ky \\
4.\ x^2y^2+fy^3+gy^2+hxy+iy \\
5.\ y^3+fxy^2+gx^2y+hy \\
6.\ y^3+fxy^2+gxy+hy
\end{array}\right\} = ax^4+bx^3+cx^2+dx+e.$$

$$\left.\begin{array}{l}
7.\ y^4+ex^3y+fxy^3+gxy^2+hy^2+ixy+ky \\
8.\ x^3y+exy^3+fx^2y+gy^2+hxy+iy \\
9.\ x^3y+ey^3+fxy^2+gxy+hy \\
10.\ x^3y+ey^3+fy^2+gxy+hy
\end{array}\right\} = ax^3+bx^2+cx+d.$$

As

Fig. 1. COTISE

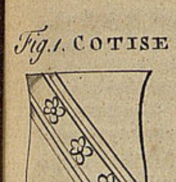
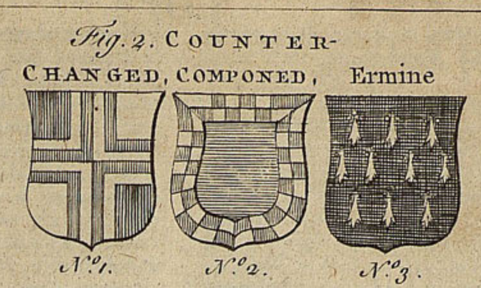


Fig. 2. COUNTER-CHANGED, COMPONED, Ermine



N°1. N°2. N°3.

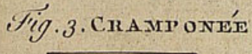


Fig. 3. CRAMPONÉE

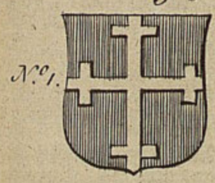


Fig. 4. CRENELLÉ



Fig. 5. CROSSELETS

N°1.



N°2.

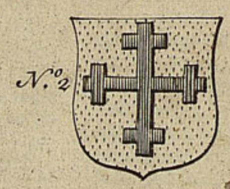


Fig. 6. CURRENT

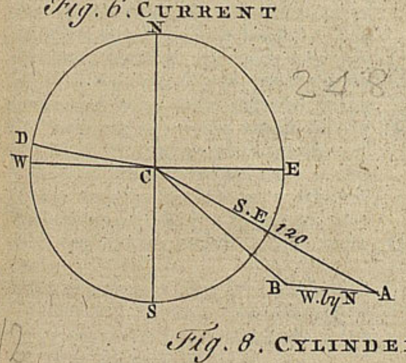


Fig. 7. CURVE.

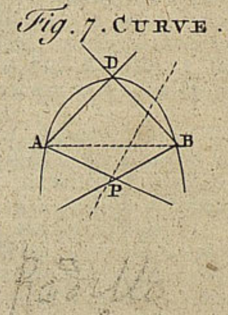
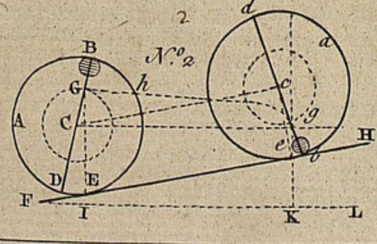


Fig. 8. CYLINDERS.

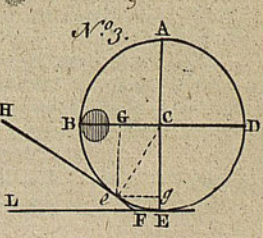
N°1.



N°2



N°3.



T. Jefferys sculp.

As it is a difficult matter to underſtand the nature, properties, and numbers of the curves of the ſecond and third kinds, how much more ſo muſt it be to attain to a glimpſe of that infinite number and variety expreſſed by the equations of the ſucceeding higher dimenſions, not to mention the infinite number of curves which do not lie in the ſame plane. Thoſe who have a mind to ſee how far this doctrine has been advanced, with regard to the curves of the higher kinds, may conſult Mr. Maclaurin's treatiſe above-mentioned, and Mr. Brackonridge's Exercitatio Geometrica de Curvarum deſcriptione.

The uſe of theſe curves in geometry, is to ſolve problems by their interſections, and to conſtruct equations. See the article CONSTRUCTION.

Cauſtic CURVE. See CAUSTIC.

Diacauſtic CURVE. See DIACAUSTIC.

Exponential CURVE, that defined by an equation wherein is an exponential quantity, as $x^x a^x$, &c.

Family of CURVES, according to Wolfius, is a congeries of ſeveral curves of different kinds, all defined by the ſame equation of an indeterminate degree; but differently, according to the diverſity of their kinds. For example: let the equation of an indeterminate degree be $a^{m-1}x = y^m$. If $m=2$, ax will be equal to y^2. If $m=3$, then will $a^2x=y^3$. If $m=4$, then will $a^3x=y^4$, &c. all which curves are ſaid to be of the ſame family. The equations, however, by which the families of curves are defined, muſt not be confounded with tranſcendental ones; tho' with regard to the whole family they be of an indeterminate degree, yet with reſpect to each ſeveral curve of the family, they are determinate; whereas tranſcendental equations are of an indefinite degree with reſpect to the ſame curve.

Inflection of a CURVE. See INFLECTION.

Quadrature of a CURVE, the aſſigning a ſquare equal to a curvilinear ſpace. See the article QUADRATURE.

Logarithmic CURVE. See LOGARITHMIC.

Mechanical CURVE. See MECHANICAL.

Regular CURVE. See REGULAR.

Rectification of a CURVE, the finding a right line equal to a curve, for the praxis of which ſee RECTIFICATION, &c.

Characteriſtic triangle of a CURVE. See the article CHARACTERISTIC.

The geneſis and properties of particular curves, as the conchoid, cycloid, &c. ſee under their proper heads, CONCHOID, CYCLOID, &c.

CURVET, or CORVET, in the manege, an air in which the horſe's legs are raiſed higher than in the demi-volt; being a kind of leap up, and a little forwards, wherein the horſe raiſes both his fore-legs at once, equally advanced, (when he is going ſtraight forward and not in a circle) and as his fore-legs are falling, he immediately raiſes his hind-legs, equally advanced, and not one before the other: ſo that all his four legs are in the air at once; and as he ſets them down, he marks but twice with them.

CURVIROSTRA, in ornithology, a ſpecies of loxia, with the two chaps bent and croſſing each other; whence its engliſh name croſs-beak. See LOXIA.

CURVIROSTRA, in natural hiſtory, a name given to thoſe foſſile cockles which have their beak ſtanding not in the middle of the ſhell, but inclining to one or the other ſide.

CURULE CHAIR, in roman antiquity, a chair adorned with ivory, wherein the great magiſtrates of Rome had a right to ſit, and be carried.

The curule magiſtrates were the ædiles, the prætors, cenſors, and conſuls. This chair was fitted in a kind of chariot, whence it had its name. The ſenators who had borne the offices of ædiles, prætors, &c. were carried to the ſenate-houſe in this chair, as were alſo thoſe who triumphed, and ſuch as went to adminiſter juſtice, &c. See ÆDILE, &c.

CURULE STATUE. See the article STATUE.

CUSCO, the capital city of Peru, during the reigns of the incas: it is ſtill a fine city, and the ſee of a biſhop, and ſtands about 350 miles eaſt of Lima, in 70° weſt long. and 13° ſouth lat.

CUSCUTA, DODDER, in botany, a genus of the tetrandria-digynia claſs of plants, whoſe corolla conſiſts of a ſingle, ovated petal, a little longer than the cup, divided into four obtuſe ſegments at the mouth: the pericarpium is fleſhy, roundiſh, and bilocular, opening horizontally: the ſeeds are two. See plate LXIV. fig. 4.

The antients recommended it as a purge; however, we eſteem it more as an attenuant and aperient in obſtructions of the viſcera, in jaundices, dropſies, and other chronic diſeaſes.

CUSHION, a ſoft handſome pillow for perſons to ſit or lean upon.

CUSP,

CUSP, in aftronomy, a term ufed to exprefs the points or horns of the moon, or other luminary.

CUSPIDATED PLANTS, in botany, are fuch plants whofe leaves are pointed like a fpear.

CUSPIDATED HYPERBOLA, that whofe points concur in the angle of contact, and there terminate. See HYPERBOLA.

CUSTODE ADMITTENDO, and CUSTODE AMOVENDO, are writs for the admitting or removing of guardians. See the article GUARDIAN.

CUSTOM, a very comprehenfive term, denoting the manners, ceremonies, and fafhions of a people, which having turned into a habit, and paffed into ufe, obtains the force of laws; in which fenfe it implies fuch ufages, as, though voluntary at firft, are yet, by practice, become neceffary.

Cuftom is hence, both by lawyers and civilians, defined *lex non fcripta*, a law, or right, not written, eftablifhed by long ufage, and the confent of our anceftors: in which fenfe it ftands oppofed to the *lex fcripta*, or the written law.

As no law can bind people without their confent, fo, wherever that is had, and a certain rule ufed as a law, fuch rule gives it the force of a law; and if it be univerfal, then it is common law: but if reftrained to this or that particular place, it is cuftom.

Cuftom had its beginning, and received the fanction of the law, thus: when a reafonable act, once done, was found to be beneficial to the people, then they had frequent recourfe to it; and by repetitions thereof, it became a cuftom, which being continued *ultra tritavum*, time out of mind, without any interruption, it obtained the power of a law, and binds the places, perfons, and things concerned therein.

All cuftoms ought to have a reafonable commencement, be certain, not ambiguous, have uninterrupted continuance, and not be againft the king's prerogative: thefe are incidents infeparable: yet a cuftom is not unreafonable for being injurious to private perfons and interefts, fo as it tends to the general advantage of the people: but if any cuftom be contrary to the public good, or if it injures a multitude, and benefits only fome certain perfons, fuch a cuftom is repugnant to the laws of reafon, and confequently void. Cuftom muft always be alledged in many perfons; and fo it may be claimed by copyholders, or the inhabitants of a place, as within fuch a county, hundred, city, borough, manor, parifh, &c. but regularly they fhall not alledge a cuftom againft a ftatute: nor may cuftom be pleaded againft cuftom; though acts of parliament do not always take away the force of cuftoms. The general cuftoms ufed throughout England, being the common law, are to be determined by the judges, who can over-rule a cuftom that is againft natural reafon, &c. but particular cuftoms are determinable by jury. See the article PRESCRIPTION.

CUSTOM *of London*. It is a cuftom of London, that where a perfon is educated in one trade, he may fet up another; that where a woman ufes a trade, without her hufband, fhe is chargeable alone, as a *feme fole* merchant, and if condemned, fhall be put in prifon till fhe pays the debt; likewife the bail for her are liable, if fhe abfent herfelf, and the hufband, in thefe cafes, fhall not be charged. If a debtor be a fugitive, by the cuftom of London, he may be arrefted before the day, in order to find better fecurity, &c. Thefe are cuftoms of this city, different from thofe of other places.

CUSTOM *of merchants*. If a merchant gives a character of a ftranger to one who fells him goods, he may be obliged to fatisfy the debt of the ftranger for the goods fold, by the cuftom of merchants. And when two perfons are found in arrears, upon an account grounded on the cuftom of merchants, either of them may be charged to pay the whole fum due, &c.

CUSTOMS, in commerce, the tribute or toll, paid by merchants to the king, for goods exported or imported: they are otherwife called duties. See DUTY.

Cuftoms are faid to be due to the king of common right: firft, becaufe the fubject has leave to depart the kingdom, and to export the commodities thereof: fecondly, becaufe of the intereft that the king has in the fea; that he is guardian of, and maintains all the ports, where the commodities are exported or imported: and, laftly, becaufe the king protects merchants from enemies and pirates. Befides the king's title to cuftoms by common right, certain tonnage and poundage duties are, by act of parliament, granted him on wines, and all merchandize, goods, &c. The word cuftoms comprehends *magna & antiqua cuftuma*, payab[illegible] cu[illegible]t of our own native com-

commodities, as wool, leather, &c. and *parva custuma*, are customs payable by merchants, strangers, and denizens: these began in the reign of king Edward I. when the parliament granted him 3d. in the pound for all merchandizes exported and imported.

Anno 6 Edward III. it was enacted, that no new customs could be levied, nor old ones increased, but by authority of parliament. But though the king cannot lay new duties on merchandizes, without consent of parliament, yet, by his prerogative, he may restrain merchants from trading, without his royal licence.

In case goods and merchandise are brought by a merchant to a port or haven, and there part of the goods are sold, but never landed, they must nevertheless pay the customs. Ships outward bound, and coming from beyond sea, having goods or merchandise on board, are to be entered at the custom-house, and the customs paid, or agreed for, under penalties and forfeiture of the goods: one moiety to the king, the other to the seizor, &c. 12 Ch. II. cap. 4. And by other statutes, since made, foreign goods, taken in at sea by any other coasting vessel, &c. and run goods concealed, shall be forfeited, and treble value: and to prevent clandestine running of goods, if any foreign brandy, &c. is imported in vessels under forty tuns, the importers shall forfeit the vessel and brandy, 8 and 11 Geo. I. Where three persons are assembled, and armed with fire arms, &c. to be assisting in running goods, they shall be adjudged guilty of felony. Also two or more in company, found passing within five miles of the sea-coast, with any horses, carts, &c. whereon are put above six pounds of tea, or five gallons of brandy, or other foreign goods, of 30 l. value, landed without entry, and not having permits, who shall carry any offensive weapons, &c. or assault any officer of the customs, shall be deemed runners of goods, be treated as felons, and the goods seized and forfeited. If any person offers any tea, brandy, &c. to sale, without a permit, the persons to whom offered may seize and carry it to the next warehouse belonging to the customs or excise, and shall be entitled to a third part of the produce on condemnation, &c. 9 Geo. II. cap. 35.

The customs of goods exported and imported throughout England, are said to amount yearly to 1,300,000 l. whereof those of the port of London make one third part, some say, two thirds. The customs of England are very numerous, and very high; the principal are the duties of tonnage and poundage. See the articles TONNAGE and POUNDAGE.

CUSTOM-HOUSE, an office established by the king's authority in maritime cities, or port towns, for the receipt and management of the customs and duties of importation and exportation, imposed on merchandises, and regulated by books of rates.

There are several custom-houses in the several ports of England, but the most considerable is that of London. It is under the direction of commissioners, appointed by patent, who have the charge and management of all the customs in all the ports of England. Other officers are a secretary, solicitor, receiver-general, comptroller-general, surveyor-general, &c. all holding their places by patents, with other inferior officers, appointed by warrant from the board of the treasury.

CUSTOM-OFFICERS shall not have any ships of their own, nor may they use merchandise, factorage, nor keep a tavern, &c. They are prohibited to trade in brandy, coffee, &c. or any exciseable liquor, on pain of 50 l. For taking a bribe they shall forfeit 100 l. and 500 l. for making collusive seizures, &c.

Every merchant, making an entry of goods, either inwards or outwards, shall be dispatched in such order as he cometh; and if any officer, or his clerk, shall, for favour or reward, put any merchant or his servant, duly attending to make entries, by his turn, to draw any reward or gratuity from him, besides what is limited in the act of tonnage and poundage, &c. he shall be strictly admonished to his duty; or, if found faulty, he shall be discharged, and not permitted to sit any more in the custom-house. The officers who sit above in the custom-house of London, shall attend their several places, from nine to twelve in the forenoon; and one officer, or clerk, shall attend with the book, in the afternoon, during such time as the officers are appointed to wait at the water-side.

CUSTOMARY TENANTS, in law, such tenants as hold by the custom of the manor, as their special evidence. These were antiently bond-men, or such as held *tenura bondagii.*

CUSTOS BREVIUM, the principal clerk belonging to the court of common pleas, whose business it is to receive and keep all the writs made returnable in that court, filing every return by itself; and, at the end of each term, to receive of the prothonotaries all the records of the nisi prius, called the posteas.

The posteas are first brought in by the clerks of assize of every circuit to that prothonotary who entered the issue in the causes, in order to enter judgment; and after the prothonotary has entered the verdict and judgment thereupon into the rolls of the court, he delivers them over to the custos brevium, who binds them into a bundle. The custos brevium makes likewise entries of writs of covenant, and the concord upon every fine: by him also are made out exemplifications and copies of all writs and records in his office, and of all fines levied, which being engrossed, are divided between him and the chirographer, which last keeps the writ of covenant and the note; and the former the concord and foot of the fine. The custos brevium is made by the king's letters patent.

CUSTOS ROTULORUM, an officer who has the custody of the rolls and records of the sessions of peace, and also of the commission of the peace itself.

He usually is some person of quality, and always a justice of the peace, of the quorum, in the county where he is appointed. This officer is made by writing under the king's sign manual, being the lord chancellor's warrant to put him in commission. He may execute his office by a deputy, and is empowered to appoint the clerk of the peace, but he may not sell the place on divers penalties.

CUTICLE, *cuticula*, in anatomy, a thin membrane, closely lying upon the skin, or cutis, of which it seems a part, and to which it adheres very firmly, being assisted by the intervention of the corpus reticulare. See the article RETICULARE CORPUS.

The cuticula, in living subjects, separates from the skin in burns, and by means of blisters: the colour of it, in Europeans, is white, but black in many other nations. As to its structure and substance, it is composed of a multitude of very minute lamellæ, wherein are very numerous foraminula: the thickness of it is different in different parts of the body, but greatest in the soles of the feet, and in the palms of the hands. The regeneration of the cuticle in living subjects is easy. All anatomists have failed in their attempts to find blood-vessels in the cuticle; the absence of which is the reason that it is without sensation. Its use is to defend the cutis from injury, from coming to contact with every thing, from dryness, and from pain, and finally to assist and at the same time to moderate the sense of feeling. See the next article.

CUTIS, the SKIN, in anatomy, a robust membrane, as thick as a piece of strong leather, extended over the whole surface of the body.

In this we are to consider the connection which is double, its upper surface adhering to the corpus reticulare and the cuticle, and its under surface to the fat. In some places this connection is but lax, in others it is very firm. The thickness of the cutis is very different in several parts of the body, and as different in the skins of different animals, as appears from the leather made from it, for common purposes. It has a multitude of sulci, or lines, which are common to it with the cuticle. It has foramina of two kinds in it; the larger, such as those of the mouth, nose, ears, and the like, tho' in effect the cutis may rather be said to be reflected, than perforated, in those parts; and the smaller, called pores: and these again are of different sizes, some larger, some smaller, and serve to give passage to the hairs, to the transpiration, and to the sweat. The pores are very large in the nose, where the naked eye may see them. As to the substance and structure of the cutis, it is composed of a multitude of tendinous fibres, single, tenacious, and interwoven in a surprising manner; of a vast number of blood vessels, and of a great number of nerves, which constitute the pyramidal papillæ, and raise themselves through the pores of the corpus reticulare: these, when the cuticle is taken off, are very easily distinguishable in the palms of the hands and under the soles of the feet, and also at the ends of the fingers, where they constitute the primary organs of feeling. There are also the cutaneous miliary glands, serving for the excretion of the matters of perspiration. Finally may be remarked the folliculi, or the receptacula cutanea, supposed, by Heister, to be the same as are described by other anatomists under the name of sebaceous glands.

The uses of the skin are numerous: 1.

To

To ſurround, cover, and defend the parts that lie underneath it. 2. To be the organ of feeling. 3. To be an univerſal emunctory to the body, cleanſing the blood of its redundancies, by the means of ſweat and perſpiration: while theſe, at the ſame time, ſerve to prevent the aridity or drineſs of the cutis itſelf.

CUTTER *of the tallies*, an officer of the exchequer, whoſe buſineſs is to provide wood for the tallies, to cut or notch the ſum paid upon them; and then to caſt them into court, to be written upon. See the article TALLY.

CUTTING, in coinage, the taking the planchets out of the laminæ, when they are reduced to the thickneſs of the ſpecies to be coined. See COINING.

CUTTING, in heraldry, is uſed for the dividing a ſhield into two equal parts, from right to left, parallel to the horizon, or in the feſſe-way. It is alſo applied to the honourable ordinaries, and even to animals, when they are divided ſo as that one part is metal, the other colour: an ordinary is ſaid to be cut, when it does not come to the full extremity of the ſhield.

CUTTING, or INTERFERING, in the manege, is when the feet of a horſe interfere, or when, with the ſhoe of one hoof he beats off the ſkin from the paſtern-joint of another foot. This is occaſioned by bad ſhoeing, wearineſs, weakneſs, or not knowing how to go, whereby the feet entangle.

CUTTING, in painting, the laying one ſtrong lively colour over another, without any ſhade or ſoftening. The cutting of colours hath always a diſagreeable effect.

CUTTING, in ſurgery, the operation of extracting the ſtone out of the human body by ſection. See the articles STONE and LITHOTOMY.

CUTTING *in wood*, a particular kind of ſculpture, or engraving, denominated from the matter whereon it is employed. See the article WOOD.

CUTTINGS, or SLIPS, in gardening, the branches or ſprigs of trees, or plants, cut or ſlipped off, to ſet again, which is done in any moiſt fine earth. The beſt time for this operation is from the middle of Auguſt to the middle of April; but when it is done, the ſap ought not to be too much in the top, leſt it die or decay before that part in the earth has root enough to ſupport the top; neither muſt it be very dry or ſcanty, for the ſap in the branches aſſiſts it to ſtrike roots: if done in the ſpring, let them not fail of water in the ſummer. In providing them, ſuch branches as have burs, knobs, or joints, are to be cut off, two or three inches beneath the burs, *&c.* and the leaves are to be ſtripped off ſo far as they are placed in the earth, leaving no ſide-branch: ſmall top ſprigs, of two or three years growth, are the beſt for this operation.

CUTTLE-FISH, the engliſh name of the ſepia of ichthyologiſts, called by ſome the ink-fiſh. See the article SEPIA.

CUVETTE, or CUNETTE. See the article CUNETTE.

CUYO, a diviſion of Chili, in South America.

CYANELLA, in botany, a genus of the hexandria monogynia claſs of plants, without any calyx; the corolla conſiſts of ſix oblong, concave patent petals, cohering at the ungues; the fruit is a roundiſh triſulcated capſule, conſiſting of three valves, and containing three cells: the ſeeds are numerous and oblong.

CYANUS, the BLUE-BOTTLE, in botany, makes a diſtinct genus of plants, according to Tournefort, but is comprehended by Linnæus among the centaurea. See the article CENTAUREA.

This plant is an alexipharmic and uterine. It is ſaid to be of uſe alſo in the king's evil, in palpitations of the heart; and a water diſtilled from it is of ſervice in inflammations of the eyes, *&c.*

CYATHUS, in roman antiquity, a liquid meaſure, containing four ligulas, or $\frac{1}{12}$ a pint engliſh wine-meaſure, being 0.469$\frac{2}{3}$ ſolid inches. See MEASURE.

CYCAS, in botany, the name of a plant the characters of which are intirely unknown.

CYCLAMEN, SOW-BREAD, in botany, a genus of the pentandria-monogynia claſs of plants, the corolla of which conſiſts of a ſingle petal; the tube is ſubgloboſe, double the ſize of the cup; yet ſmall and nutant; the limb is large, and turns upwards, and is divided into five ovato-lanceolate ſegments; the fruit is a roundiſh berry, opening in five or ſix places at the top, and containing only one cell; the ſeeds are numerous, roundiſh, and angular. See plate LXV. fig. 2.

The root is a powerful aperient and abſtergent, is of uſe in obſtructions of the menſes, and in expelling a dead fœtus: but it is to be uſed with great caution.

CYCLE, κυκλος, in chronology, a certain period or ſeries of years, which regularly proceed from the firſt to the laſt, and then return again to the firſt, and circulate perpetually. See the article PERIOD.

The moſt conſiderable cycles are thoſe of the ſun, of the moon, and of the roman indiction.

The CYCLE *of the ſun* conſiſts of twenty-eight years, which contain all the poſſible combinations of the dominical letters, in reſpect to their ſucceſſive order, as pointing out the common years and leap-years; ſo that, after the expiration of the cycle, the days of the month return in the ſame order to the ſame days of the week, throughout the next cycle; except that upon every centeſimal year, which is not a leap-year, the letters muſt always be removed one place forward, to make them anſwer to the years of the cycle; for inſtance, if the year 1800 were a leap-year, as every centeſimal year is in the julian account, the dominical letters would be E D, and C would be the dominical letter of the next year: but as it is a common year in the gregorian account, D is the dominical letter of 1801, which anſwers to the eighteenth of the cycle, C to the nineteenth, *&c.* until the next centeſimal year. See DOMINICAL LETTER.

To find the year of this cycle for any year of the chriſtian æra, add 9 to the current year of Chriſt, becauſe the cycle commenced nine years before the chriſtian æra, and divide the ſum by 28, the quotient will ſhew the number of cycles which have revolved ſince the beginning of that in which the chriſtian æra commenced: and the remainder, if any, ſhews the current year of the cycle: but if there be no remainder, it ſhews that it is the laſt, or twenty-eighth year of the cycle.

The dominical letter of each year in this cycle, until the year 1800, appears by the following table.

1	DC	5	FE	9	AG	13	CB	17	ED	21	GF	25	BA
2	B	6	D	10	F	14	A	18	C	22	E	26	G
3	A	7	C	11	E	15	G	19	B	23	D	27	F
4	G	8	B	12	D	16	F	20	A	24	C	28	E

CYCLE *of the moon,* or *Lunar* CYCLE, called alſo the *golden number*, is a period of nineteen years, after which the new and full moons return on the ſame days of the months, only one hour twenty-eight minutes ſooner: ſo that, on whatever days the new and full moon fall this year, they will happen nineteen years hence, on the ſame days of the months, except when a centeſimal common year falls within the cycle, which will move the new and full moons a day later in the calendar than otherwiſe they would have fallen, inſomuch that a new moon which fell before the centeſimal year, ſuppoſe on March 10, will fall nineteen years afterwards, on March 11. The number of years elapſed in this cycle is called the prime, from its uſe in pointing out the day of the new moon, *primum lunæ*, and the golden number, as deſerving to be writ in letters of gold. See the article PRIME.

The golden numbers are thoſe placed in the firſt column of the calendar, betwixt March 21, and April 18, both incluſive, to denote the days upon which thoſe full moons fall, which happen upon, or next after, March 21, in thoſe years of which they are reſpectively the golden numbers. See the article CALENDAR.

For finding the golden number, add one to the current year of our Lord, becauſe one year of this cycle was elapſed before the chriſtian æra began, and divide by 19, the remainder is the current year of this cycle, or golden number; but if nothing remains, it ſhews that it is the laſt year of the cycle, and conſequently the golden number is 19.

CYCLE *of the roman indiction,* is a period of fifteen years, in uſe among the Romans, commencing from the third year before Chriſt. This cycle has no connection with the celeſtial motions; but was inſtituted, according to Baronius, by Conſtantine; who having reduced the time which the Romans were obliged to ſerve to fifteen years, he was conſequently obliged, every fifteen years, to impoſe, or *indicere*, according to the latin expreſſion, an extraordinary tax for the payment of thoſe who were diſcharged; and hence aroſe this cycle.

To find the cycle of indiction for any given year, add 3 to the given year, and divide the ſum by 15, the remainder is the current year of the cycle of indiction; if there be no remainder, it is the fifteenth or laſt year of the indiction.

Theſe three cycles multiplied into one another, that is 28×19×15, amount to 7980, which is called the julian period, after which the three foregoing cycles will begin again together. This period had its imaginary beginning 710 years before the creation, according to the common opinion among chronologers concerning the age of the world, and is not yet complete. It is much uſed in chronological

logical tables. See the articles EPOCHA and PERIOD.

CYCLIDIA, in zoology, a genus of animalcules of a roundish figure, without any limbs. See ANIMALCULE.

CYCLISCUS, in surgery, an instrument of the form of a half moon, used in scraping the skull, in case of fractures of that part. See FRACTURE.

CYCLOID, in geometry, a curve of the transcendental kind, called also the trochoid. It is generated in the following manner: if the circle C D H (plate LXV. fig. 1.) roll on the given straight line AB, so that all the parts of the circumference be applied to it one after another, the point C that touched the line AB in A, by a motion thus compounded of a circular and rectilinear motion, will describe the curve A C E B, called the cycloid, the properties of which are these: 1. If on the axis E F be described the generating circle E G F meeting the ordinate C K in G, the ordinate will be equal to the sum of the arc E G and its right sine G K; that is, C K will be equal to E G+G K. 2. The line C H parallel to the chord E G is a tangent to the cycloid in C. 3. The arch of the cycloid E L is double of the chord E M, of the corresponding arc of the generating circle E M F: hence the semicycloid E L B is equal to twice the diameter of the generating circle E F; and the whole cycloid A C E B is quadruple of the diameter E F. 4. If E R be parallel to the base A B, and C R parallel to the axis of the cycloid E F; the space E C R, bounded by the arc of the cycloid E C, and the lines E R and R C, shall be equal to the circle area E G K: hence it follows, if A T, perpendicular to the base A B, meet E R in T, the space E T A C E will be equal to the semicircle E G F: and since A F is equal to the semicircumference E G F, the rectangle E F A T, being the rectangle of the diameter and semicircumference, will be equal to four times the semicircle E G F; and therefore the area E C A F E will be equal to three times the area of the generating semicircle E G F. Again, if you draw the line E A, the area intercepted betwixt the cycloid E C A, and the straight line E A will be equal to the semicircle E G F; for the area E C A F E is equal to three times E G F, and the triangle $EAF=AF\times\frac{1}{2}EF$, the rectangle of the semicircle and radius, and consequently equal to 2 E G F; therefore their difference the area E C A E is equal to E G F. 5. Take $Eb=OK$, draw bZ parallel to the base, meeting the generating circle in X, and the cycloid in Z, and join C Z, F X; then shall the area C Z E C be equal to the sum of the triangles G F K and bFX. Hence an infinite number of segments of the cycloid may be assigned, that are perfectly quadrable.

For example, if the ordinate C K be supposed to cut the axis in the middle of the radius O E, then K and b coincide; and the area E C K becomes in that case equal to the triangle G K F, and E b Z becomes equal to F b X, and these triangles themselves become equal.

This is the curve on which the doctrine of pendulums and time-measuring instruments in a great measure depend; Mr. Huygens having demonstrated that from whatever point or height a heavy body oscillating on a fixed center begins to descend, while it continues to move in a cycloid, the time of its falls or oscillations will be equal to each other. It is likewise demonstrable, that it is the curve of quickest descent, *i. e.* a body falling in it, from any given point above, to another not exactly under it, will come to this point in a less time than in any other curve passing through those two points. See the articles PENDULUM and OSCILLATION.

CYCLOIDAL, something belonging to a cycloid. See the preceding article. Hence the cycloidal space is the area bounded by the cycloid and its subtense.

CYCLOMETRY, a term sometimes used for the mensuration of circles. See the article CIRCLE.

CYCLOPÆDIA, or ENCYCLOPÆDIA, denotes the circle or compass of arts and sciences. A cyclopædia, say the authors of the french Encyclopedie, ought to explain, as much as possible, the order and connection of human knowledge.

Cyclopædias are generally in the form of dictionaries, where every branch of knowledge is resolved into its constituent parts, the description whereof is to be found under their respective articles. See the article DICTIONARY, and the Introduction to this work.

CYCLOPTERUS, the LUMP-FISH, in ichthyology, a genus of fishes of the order of the branchiostegi: it is also called the sea-owl, and by the Scots the cock-paddle.

It is distinguished from other fishes of this order, by its belly-fins growing together in the form of a funnel. It is a clumsy

clumſy fiſh, being very thick in proportion to its length.

CYDER, or CIDER, an excellent drink made of the juice of apples, eſpecially the more curious table-kinds; the juice of theſe being eſteemed more cordial and pleaſant than that of the wild and harſh kinds, growing plentifully in the counties of Hereford, Worceſter, Gloucester, &c. However, mixture of fruits is a great advantage to this liquor; the meaneſt apples mingled together making as good cyder as the beſt kinds alone: but the beſt mixture of all, according to Mr. Worlidge, is that of red-ſtreaks with golden rennets, obſerving always that they be of equal ripeneſs. It conduces greatly to the goodneſs of the cyder, to let the apples lie a week or two in heaps, before they are preſſed; in doing which every man may be freely left to the cuſtoms of his own native country: but a due management of the expreſſed juice is of the utmoſt importance. After ſtraining the liquor through a ſieve, let it ſtand a day or two in an open tun, covered only with a cloth, or boards, to keep out the duſt, that the more groſs parts may ſubſide. Then draw it off in pails into the veſſels, wherein it is intended to be kept, obſerving to leave an eighth part of them empty. Set theſe veſſels in your coldeſt cellars, with the bung open, or covered only with a looſe cover, both that the volatile ſteams may have free vent, and that the muſt may be kept cool, otherwiſe it is apt to ferment too much. Having fermented in this manner for fifteen or twenty days, the veſſel may be ſtopped up cloſe; and, in two or three months time, the cyder will be fit for drinking. But if you expect cyder in perfection, ſo as to flower in the glaſs, it muſt be glued, as they call it, and drawn off into bottles, after it has been a ſhort time in the caſk: this is done by pouring into each veſſel a pint of the infuſion of ſixty or ſeventy grains of the moſt tranſparent iſinglaſs, or fiſh glue, imported from Archangel, in a little white-wine and river or rain-water, ſtirred well together, after being ſtrained through a linen cloth. When this viſcous ſubſtance is put into the caſk, it ſpreads itſelf over the ſurface like a net, and carries all the dregs to the bottom with it.

Ginger added to cyder, not only corrects its windineſs, but makes it more briſk; and a few drops of currant-juice, beſides tinging, adds a pleaſant quickneſs to it. Honey, or ſugar, mixed with ſome ſpices, and added to flat cyder, will very much revive it.

Some commend boiling of cyder-juice, which ſhould be done as ſoon as it is preſſed, ſcumming it continually, and obſerving to let it boil no longer than till it acquires the colour of ſmall beer: when cold, put it into a caſk, leaving a ſmall vent; and when it begins to bubble up out of the vent, bottle it for uſe.

CYDONIA, the QUINCE-TREE, in botany, is made by Linnæus a ſpecies of the pyrus. See QUINCE and PYRUS.

CYGNUS, the SWAN, in ornithology, a well-known water-fowl, ranked among the anas-kind. See the article ANAS.

The ſwan is a large and beautiful bird, of a ſnow-white all over; as is the wild ſwan, repreſented in plate LXIII. fig. 1. n° 2. only ſomewhat leſs in ſize: the head of the tame kind is repreſented, *ibid.* n° 1.

CYGNUS, in aſtronomy, a conſtellation of the northern hemiſphere, conſiſting of 17 ſtars according to Ptolemy's catalogue, of 19 in Tycho's, and in the Britannic catalogue of 107.

CYLINDER, in geometry, a ſolid body, ſuppoſed to be generated by the rotation of a parallelogram, as C B E F, about one of its ſides C F (plate LXII. fig. 8. n° 1.) If the generating parallelogram be rectangular, as C B E F, the cylinder it produces will be a right cylinder, that is, it will have its axis perpendicular to its baſe. If the parallelogram be a rhombus, or rhomboides, the cylinder will be oblique or ſcalenous.

Properties of the CYLINDER. 1. The ſection of every cylinder by a plane oblique to its baſe, is an ellipſis. 2. The ſuperficies of a right cylinder is equal to the periphery of the baſe multiplied into the length of its ſide. 3. The ſolidity of a cylinder is equal to the area of its baſe, multiplied into its altitude. 4. Cylinders of the ſame baſe, and ſtanding between the ſame parallels are equal. 5. Every cylinder is to a ſpheroid inſcribed in it, as 3 to 2. 6. If the altitudes of two right cylinders be equal to the diameters of their baſes, thoſe cylinders are to one another as the cubes of the diameters of their baſes.

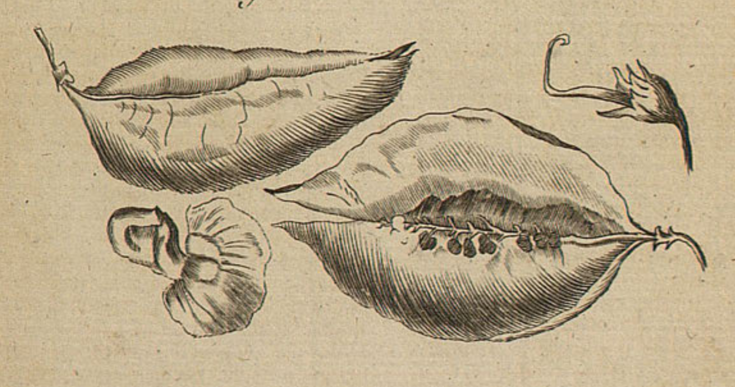
To find a circle equal to the ſurface of a cylinder, we have this theorem: the ſurface of a cylinder is equal to a circle, whoſe radius is a mean proportional between the diameter and height of the cylinder. The diameter of a ſphere, and altitude of a cylinder equal thereto, being given, to find the diameter of the cylinder, the theorem is, the ſquare of the diameter

Fig. 1. No. 1.

CYGNUS, the *SWAN*.

No. 2.

Fig. 2. COLUTEA.



T. Jefferys sculp.



J. Jefferys sculp.

diameter of the ſphere is to the ſquare of the diameter of the cylinder equal to it, nearly, as triple the altitude of the cylinder to double the diameter of the ſphere.

Rolling, or *loaded* CYLINDER, in philoſophy, a cylinder which rolls up an inclined plane. The phænomenon of the rolling cylinder may be eaſily accounted for, from what we have obſerved under CENTER *of gravity*. For let ABED (plate LXII. fig. 8. n° 2.) repreſent a ſection of a cylinder of wood, biaſſed on one ſide with a cylindric piece of lead, as B; this will bring the center of gravity out of the center of magnitude C, to ſome point G, between C and B. Let FH be an inclined plane, whoſe baſe is FL. It is evident the cylinder laid upon the plane will no where reſt but there, where a perpendicular to the horizon FL, paſſes through the center of gravity G, and that point of the plane E, in which the cylinder touches it; and this in all angles of inclination of the plane, leſs than that whoſe ſine is equal to CG, the radius being CD. This will happen only in two ſituations, ABED and *abed*; becauſe when the cylinder moves, the center of gravity deſcribing a circle round the center of magnitude C, this circle will meet the perpendicular in two points G and *g*, in each of which the center of gravity being ſupported, the cylinder will reſt. Therefore the cylinder moves from E to *e*, by the deſcent of the center of gravity from G to *g*, in the arch of the cyloid G*hg*.

If the cylinder ABED (*ibid.* n° 3.) inſiſting on the horizontal line EL, in the point E, has the center of gravity G in the horizontal diameter DB, it will gravitate in the perpendicular G*e*. If therefore a plane FH touch the cylinder in the point *e*, it is plain the cylinder cannot either aſcend or deſcend on ſuch a plane; becauſe G, in any ſituation between *e* and H, or *e* and F, will gravitate to the left or right, from the point in which the cylinder touches the plane, and ſo will, in either caſe, bring it back to the point *e*.

Scenography of a CYLINDER. See the article SCENOGRAPHY.

CYLINDER-CHARGE, in gunnery, that part of a great gun which is poſſeſſed by the powder and ball.

CYLINDER-CONCAVE, in gunnery, is all the chace of a piece of ordnance.

CYLINDER-VACANT, in gunnery, is that part of the hollow that remains empty, after the gun is charged. See CANNON.

CYLINDROID, in geometry, a ſolid body, approaching to the figure of a cylinder, but differing from it in ſome reſpect, as having the baſes elliptical, but parallel and equal. See the article CYLINDER.

Hyperbolic CYLINDROID. See the article HYPERBOLIC.

CYLINDRUS, in natural hiſtory, a genus of ſhell-fiſh, the ſhell of which is ſimple, without a hinge, formed of one continued piece, and of a figure approaching to that of a cylinder. Its animal inhabitant is called limax. See LIMAX.

The clavicle of this ſhell is, in ſome ſpecies, continuous with the reſt of the ſhell; in others, it is divided from it by a kind of circle, and in ſome it is coronated. There are a great many very elegant ſpecies of it, as the brocade-ſhell, tulip-ſhell, porphyry-ſhell, letter-ſhell, *&c.* See plate LXIV. fig. 5. where n° 1. repreſents the tulip-ſhell, n° 2. the porphyry-ſhell, and n° 3. the gold-broad-ſhell.

CYMA, or CYMATIUM, in architecture. See the article CYMATIUM.

CYMA, in botany, the tender ſtalk which herbs ſend forth in the beginning of the ſpring, particularly thoſe of the cabbage-kind.

CYMATIUM, in architecture, a member, or moulding, of the corniche, the profile of which is waved, that is, concave at top, and convex at bottom. See the article CORNICHE.

Vitruvius does not confine the cymatium to the corniche, but uſes it indifferently for any ſimilar moulding, wherever he meets with it, in which he differs from the moſt accurate among the moderns. Felibien makes two kinds of cymatiums, the one right, and the other inverted. In the firſt, that part which projects the fartheſt is concave, and is otherwiſe called gula recta, and doucine: in the other, the part that projects fartheſt is convex, called gula inverſa, or ſalon. The engliſh architects do not uſually give the name cymatium to theſe mouldings, except when they are found on the tops of corniches; but the workmen uſe the name indifferently, wherever they are found.

Tuſcan CYMATIUM conſiſts of an ovalo or quarter-round. Philander makes two doric cymatiums, of which this is one. Baldus calls this the leſbian aſtragal.

Doric CYMATIUM is a cavetto, or a cavity leſs than a ſemicircle, having its projecture ſubduple to its height. See the article DORIC.

Leſbian CYMATIUM, according to Vitruvius, is what our architects otherwiſe call talon, *viz.* a concavo-convex member, having

having its projecture subduple to its height.

CYMBAL, κυμϐαλον, a musical instrument in use among the antients. The cymbal was round, made of brass, like our kettle-drums, and, as some think, in their form, but smaller, and of different use.

Cassiodorus calls it acetabulum, *i. e.* a hollow piece, the name of a cup, or cavity of a bone, wherein another is lodged or articulated.

Authors compare cymbals to the lips, because they formed sounds by pressing and striking one against another, whence they must have been composed of two several parts. Ovid gives cymbals the epithet of *genialia*, because they were used at weddings and other diversions. The Jews had their cymbals, or, at least, instruments which translators render cymbals; but as to their matter and form, critics are still in the dark. The modern cymbal is a mean instrument, chiefly in use among vagrants, gypsies, &c.

CYMBARIA, in botany, a genus of the didynamia-angiospermia class of plants, the corolla of which consists of a single petal; the tube is oblong and ventricose; the limb ringent; the upper lip divided into two reflex and obtuse segments; the lower lip in three obtuse segments; the fruit is a roundish capsule, containing one cell, and divided by two valves; the seeds are numerous, smooth, and angulated.

CYNÆDUS, in ichthyology, a species of labrus, of a yellow colour, with a purple-coloured back, and the back-fin reaching from the head to the tail.

CYNANCHE, among physicians, denotes an inflammation of the larynx. See the article QUINZY.

CYNANCHUM, in botany, a genus of the pentandria-digynia class of plants, the flower of which consists of one petal, divided into five long and linear segments at the edge: the fruit is made up of two oblong and acuminated follicles, which form only one cell, wherein are numerous oblong seeds, crowned with down.

CYNANTHROPIA, in medicine, the distemper occasioned by the bite of a mad dog, wherein the patient avoids the light and every thing that is bright, and dreads the water so much, that he trembles at the sight or even the remembrance of it. See HYDROPHOBIA.

It is communicated to a person by the bite of any animal, as a dog, wolf, &c.

CYNARA, the ARTICHOAK, in botany, a genus of the syngenesia-polygamia-æqualis class of plants, the compound flower of which is tubulated and uniform, and the hermaphrodite flowers almost equal; the proper flower is monopetalous and funnel-formed; the fruit is naked; the cup a little connivent; the seed is single, oblongo-ovated, quadragono-compressed, and crowned with a long sessile down. See plate LXV. fig. 5.

The use of artichoaks, as a food, is well known. Among physicians, both the head and root are recommended as aperitive, and therefore good in suppressions of urine and the jaundice: it is also said to be a provocative to venery, and to cure barrenness.

CYNICS, a sect of antient philosophers, who valued themselves upon their contempt of riches and state, arts and sciences, and every thing, in short, except virtue or morality.

The cynic philosophers owe their origin and institution to Antisthenes of Athens, a disciple of Socrates, who, being asked of what use his philosophy had been to him, replied, "It enables me to live with myself." Diogenes was the most famous of his disciples, in whose life the system of this philosophy appears in its greatest perfection: he led a most wretched life, a tub having served him for a lodging, which he rolled before him, wherever he went; yet he was, neverthelefs, not the more humble on account of his ragged cloak, bag, and tub; for, one day, entering Plato's house, at a time that there was a splendid entertainment there, for several persons of distinction, he jumped up upon a very rich couch, in all his dirt, saying, "I trample on the pride of Plato." "Yes (replied Plato) but with great pride, Diogenes." He had the utmost contempt for all the human race, for he walked the streets of Athens, at noon-day, with a lighted lantern in his hand, telling the people, "He was in search of a man." Amongst many excellent maxims of morality, he held some very pernicious opinions; for he used to say, that the uninterrupted good fortune of Harpalus, who generally passed for a thief and a robber, was a testimony against the gods. He regarded chastity and modesty as weaknesses; hence Laertius observes of him, that he did every thing openly, whether it belonged to Ceres or Venus, though he adds that Diogenes only ran to an excess of impudence to put others out of conceit with it: but impudence was the characteristic of these philosophers, who argued, that what was right to be done, might be done at all times, and in all places. The

chief

Fig. 1. CYCLOID.

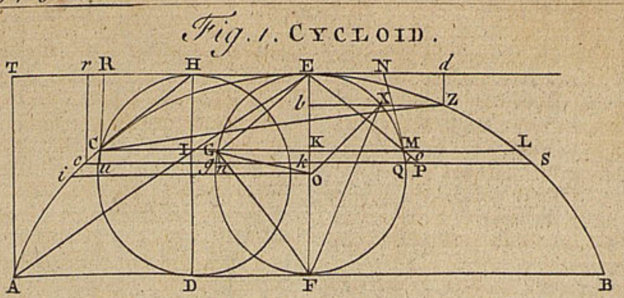


Fig. 2. CYCLAMEN.



Fig. 3. CYNOGLOSSUM.

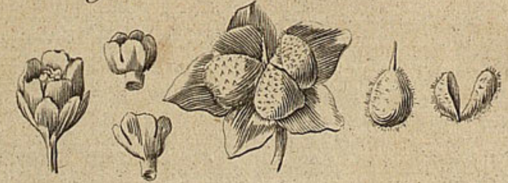


Fig. 4. CYPERUS.



Fig. 5. CYNARA.



T. Jefferys sculp.



Fig. 1. SPOTTED CUCKOW.

Fig. 2. CYNOMORIUM, the *MALTESE FUNGUS.*

J. Jefferys sculp.

chief principle of this ſect, in common with the ſtoics, was, that we ſhould follow nature; but they differed from the ſtoics in their explanation of that maxim, the cynics being of opinion that a man followed nature, that gratified his natutal motions and appetites; while the ſtoics underſtood right reaſon, by the word nature.

CYNIC SPASM, a kind of convulſion, wherein the patient imitates the howlings of dogs. See CONVULSION.

CYNIPS, in zoology, a genus of four-winged flies, of the hymenoptera-order, armed with a conical aculeus, or ſting, at the tail.

CYNOCEPHALUS, in zoology, a name given to the larger monkeys, with a long noſe, and a head reſembling that of a dog: theſe are uſually called, in engliſh, baboons.

CYNODESMUS, among anatomiſts, the ſame with frænum. See FRÆNUM.

CYNOGLOSSUM, HOUND'S TONGUE, in botany, a genus of the pentandria-monogynia claſs of plants, whoſe corolla conſiſts of a ſingle petal, of the length of the cup; the tube is cylindric, and ſhorter than the limb, which is divided into five obtuſe ſegments; the fruit conſiſts of four roundiſh depreſſed capſules; the ſeed is ſingle, of an oval figure, gibbous, acuminated, and ſmooth. See plate LXV. fig. 3.

Its roots is kept in the ſhops, and is eſteemed a pectoral and narcotic.

Some recommend it in catarrhs, the gonorrhœa, and ſcrophulous caſes.

CYNOGLOSSUS, in ichthyology, a fiſh of the pleuronectes-kind, with the eyes on the right, and the anus on the left ſide, and furniſhed with ſharp teeth. See the article PLEURONECTES.

CYNOMETRA, in botany, a genus of the decandria-monogynia claſs of plants, the cup of which is divided into four ſegments; and the fruit is a fleſhy lunated pod, containing a ſingle ſeed.

CYNOMORIUM, MALTESE FUNGUS, in botany, a genus of the monoecia-monandria claſs of plants, the flower of which is amentaceous; the female floſcules being mixed with the male ones on ſome plants, and ſcarce removed from them, and neither having any corolla; the fruit is naked, and the ſeed ſingle and roundiſh. See plate LXVI. fig. 2.

This plant is a very powerful aſtringent.

CYNOMUIA, the DOG-FLY, in zoology. See the article DOG-FLY.

CYNOREXY, among phyſicians, the ſame with bulimy. See the article BULIMY.

CYNOSURA, in aſtronomy, a name given by the Greeks to the conſtellation of urſa minor. See the article URSA.

This is the conſtellation next to the north pole.

CYNOSURUS, DOG'S TAIL GRASS, in botany, a genus of the triandria-digynia claſs of plants, whoſe corolla conſiſts of two valves; the exterior concave, longer, and ariſtated; the interior, plane, without any ariſta: the corolla ſurrounds the ſeed, which is ſingle, of an oblong figure, and pointed at each end.

CYON, or CION, among gardeners. See the article CION.

CYPERUS, in botany, a genus of the triandria-monogynia claſs of plants, having no corolla, nor any pericarpium; the ſeed is ſingle, of a triquetrous form, acuminated, and having no villi or hairs. See plate LXV. fig. 4.

The roots of this plant are carminative and attenuant; they promote the menſes, and are good in all chronic caſes, ariſing from obſtructions of the viſcera.

CYPHER, or CIPHER. See CIPHER.

CYPHOMA, CYPHOS, or CYPHOSIS, an incurvation of the ſpine, forming a crookedneſs in the back. See SPINE.

CYPHONISM, in grecian antiquity, a puniſhment inflicted upon criminals, by faſtening a collar of wood round their necks, which conſtrained them to keep their heads bowed down: ſome ſay, the neck, hands, and feet were fettered or incloſed within it. See KINOPHONISM.

CYPRÆA, a kind of ſnail-ſhells, of an oval contorted figure, and with a longitudinal aperture.

To this genus belong the concha veneris and the moneta guineenſis, the former of which is repreſented in plate LXIV. fig. 6.

CYPRESS, *cupreſſus*, the engliſh name of a genus of trees. See CUPRESSUS.

Summer-CYPRESS, the ſame with the chenopodium of botaniſts. See the article CHENOPODIUM.

CYPRINUS, in ichthyology, a very comprehenſive genus of fiſhes of the order of the malacopterygii, the characters of which are theſe: the branchioſtege membrane on each ſide contains three ſmall bones; the mouth is toothleſs, except that towards the orifice of the ſtomach there are two ſerrated bones, which ſerve inſtead of teeth.

This is a very numerous genus, comprehending the roach, tench, carp, gudgeon, barbel, chub, bream, bleak, &c.

CYPRIPEDIUM, LADIES SLIPPER, in botany, a genus of plants of the gynandria-

nandria-diandria clafs, the flower of which confifts of four or five very long, erect, and narrow petals; the fruit is an oval unilocular capfule, containing a great number of minute feeds.

CYPRUS, an ifland fituated in the moft eafterly part of the Levant, or Mediterranean fea, between 33° and 36° eaft longitude, and between 34° and 36° north latitude.

It is about one hundred and fifty miles long and feventy broad, and is fubject to the Turks.

Knights of CYPRUS, an order inftituted by Guy de Lufignan, titular king of Jerufalem, to whom Richard I. of England, after conquering this ifland, made over his right.

Thefe knights were alfo denominated knights of filence, and knights of the fword.

CYRENAICS, *cyrenaici*, a fect of antient philofophers, fo called from their founder, Ariftippus of Cyrene, a difciple of Socrates.

The great principle of their doctrine was, that the fupreme good of man in this life is pleafure; whereby they not only meant a privation of pain and a tranquillity of mind, but an affemblage of all mental and fenfual pleafures, particularly the laft. See the article EPICUREAN.

CYST, the bag, or tunic, including all incyfted tumors, as the fchirrus, atheroma, fteatoma, meliceres, &c. See the articles SCIRRHUS, ATHEROMA, &c.

If in extracting an incyfted tumour, the including cyft be broke, or wounded, care muft be taken to remove it, otherwife the tumour will fpeedily return. See the article *Encyfted* TUMOURS.

Indeed if the tumour be a fcirrhus, farcoma, fteatoma, or in a glandular part, the contents are hard enough to make a clean extirpation of it, notwithftanding its including coats be wounded: but when the matter of the tumour is foft or fluid, by its efcaping, the tumour will become flaccid, fo that it will hardly be poffible to make a clean extirpation of the cyft, without leaving fome fragment behind, which muft in that cafe be brought away by dreffing the abfcefs with digeftives, &c. See the article ABSCESS.

CYSTIC, a name given to two arteries and two veins, opening into the gall bladder. The cyftic arteries, *cyfticæ gemellæ*, are two arteries proceeding from the right branch of the cœliac; and that trunk of the vena porta, which goes into the liver affords the cyftic veins.

CYSTIC DUCT, *cyfticus ductus*, a pipe that goes into the neck of the cyftis, or gall-bladder, into which fome bilious ducts likewife open, and through which the greater part of the bile is evidently carried into the cyftis, in human fubjects.

CYSTIC BILE, one of the two kinds of bile, being diftinguifhed into the cyftic and hepatic bile. See the article BILE. The cyftic bile is very bitter, thicker, and more coloured than the hepatic.

CYSTIS, in anatomy, the fame with vefícula, or bladder. See BLADDER and VESICULA.

CYTISUS, SHRUB-TREFOIL, in botany, a genus of plants of the diadelphia-decandria clafs, with a papilionaceous flower, and an oblong, obtufe, and rigid pod for its fruit, wherein are a few compreffed and kidney-like feeds. The leaves of cytifus are efteemed cooling and difcutient.

CYZICENS, *cyzicena*, a fort of magnificent banquetting-houfes, among the antient Greeks, fo called from Cyzicus, a city famous for its fumptuous buildings. The cyzicens always looked to the north, opened into pleafant gardens, and were the fame as the triclinia and cœnacula were at Rome.

CZAR, a title of honour affumed by the great dukes, or, as they are now ftiled, emperors of Ruffia.

Beeman makes no doubt but they took this title, by corruption, from cæfar, emperor; and, accordingly they bear an eagle, as the fymbol of their empire, and the word CÆSAR in their arms: yet they make a diftinction between czar and cæfar, the firft being taken for the king's name, and the other for the emperor's. The firft that bore this title was Bafil, the fon of Bafilides, under whom the ruffian power began to appear, about 1470.

CZERNIGOF, the capital of the province of Czernigof, in Ruffia, near the frontiers of Poland: eaft long. 31° 30′, and north lat. 52° 30′.

CZERSKOW, a town of Warfovia, in Poland, fituated on the river Viftula, about thirty miles fouth of Warfaw: eaft long. 21° 30′, and north lat. 52° 30′.

CZONGRODT, a town of Hungary, fituated on the river Thieffe, about thirteen miles north of Segedin: eaft longitude 20° 45′, and north latitude 46° 36′.

END of the FIRST VOLUME.



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